DOCTOR OF PHILOSOPHY

Rural society in Scotland from the Restoration to the Union challenge and response in the Carse of Gowrie, circa 1660-1707

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UNIVERSITY OF DUNDEE

DEPARTMENT OF HISTORY

DECLARATION

I hereby declare that I, ...MARY YOUNG..... am the author of this thesis; that, unless otherwise stated, all references cited have been consulted by me; that the work of which the thesis is a record has been done by me; and that this thesis has not, in whole or part, been previously accepted for a higher degree.

Signed.....Mary Young.....

Date.....28/5/04.....

CERTIFICATE

This is to certify that .....Mary Young..... has done this research under my supervision and that she/he has fulfilled the conditions of the relevant ordinances of the University of Dundee so that she/he is qualified to submit for the Degree of Doctor of Philosophy.

Signed.....

Date.....27/5/04.....

Summary of thesis

This thesis comprises a detailed investigation of the inter-relationship of society, economy and agricultural improvement in Lowland Scotland *circa* 1660-1707. Its purpose is the achievement of a deeper understanding of the process of modernisation in early modern rural society in a critical period of transition. The research focuses on the Carse of Gowrie in east Perthshire, a progressive district in the mainstream of agriculture and rural manufacture at a time when the countryside dominated the nation's socio-economy. The evidence on which the thesis is based is drawn principally from contemporary estate papers; additional primary sources used include burgh, church, commissary court and exchequer records.

A study is made of how the local economy was able to operate and develop. Population levels, structure and sustainability are assessed. A very high degree of economic energy that encompassed all sectors of rural society is revealed. A growth in the numbers and influence of the middling sorts is identified as making a significant contribution towards the erosion of traditional relationships and the founding of a more modern social and economic landscape. The nature and extent of rural trade and manufacturing is explored, together with the leading role played by the lower echelons of society in a massive expansion in the production of linen. A real increase in agricultural productivity has been found and the manner of its achievement discussed. The analysis of a series of crop returns extending from 1673 to 1695 highlights the problems faced and includes evidence of a significant downturn in yields after 1691 that presaged the harvest failures and famine of the later 1690s. The social and economic effects of the display of their wealth and status by landowners in the modernising and beautifying of their residences together with their increasing demand for monetary income are explored.

Abbreviations

AgHR	*The Agricultural History Review*
APS	*Acts of the Parliaments of Scotland*
DCARC	Dundee City Archive and Record Centre
NLS	National Library of Scotland
NAS	National Archives of Scotland
NRA(S)	National Register of Archives (Scotland)
NSA	*New Statistical Account*
OPR	Old Parish Registers
OSA	*Old Statistical Account*
PKAC	Perth and Kinross Archive Centre
RCAHMS	Royal Commission on the Ancient and Historical Monuments of Scotland
SAUL	St Andrews University Library
UDAS	University of Dundee Archive Services

Notes on the Text

All money is in £Scots unless otherwise stated.

Grain is in Perthshire measure unless otherwise stated. The 'old' wheat firlot was said to have been about 3.5% 'better than Scotch standard', the oat firlot 0.93% better than Scotch standard.[1]

1.355 pints	1 lippy
4 lippies	1 peck
4 pecks	1 firlot
4 firlots	1 boll
16 bolls	1 chalder

[1] *A Proposal for uniformity of Weights and Measure in Scotland* (Printed for Charles Elliot, Parliament Square, 1779), 110-111.

Chapter 1

Introduction

At the close of the seventeenth century 85% or more of Scotland's population lived within a rural environment.[1] The large majority were involved at first hand in agriculture, which was by far the biggest sector within the Scottish economy. Agriculture was fundamental to pre-industrial society. It was not only a source of foodstuffs but also supplied the basic raw materials for much of rural industry and manufacture. The level of productivity determined the size of the population that could be supported and had a major bearing on the proportion of that population who were either able, or had need, to engage in non-agricultural activities.[2] The purpose of the research upon which this thesis is based is, through the medium of agriculture, to achieve a deeper understanding of the process of modernisation in the early modern rural society of Lowland Scotland. At issue are the nature and role of the forces at work in the time when the feudal thinking and traditions that had dominated, were being eroded and replaced by a commercial ethos that would be capable of exploiting to the full the developing markets of the eighteenth century and building a capitalist economy.

The work of I. D. Whyte has given us a broad knowledge of agriculture and rural society in Lowland Scotland in the seventeenth century.[3] It is a region, however, of many, very different, geographic areas. Local studies are needed to determine the varying circumstances that existed and the influence of these on the pace and nature of change. Studies on a local scale can also facilitate, at ground level, a detailed exploration of the way in which agriculture, economy and society were linked, interacted and developed.

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[1] I. D. Whyte, *Scotland Before the Industrial Revolution* (London, 1995), 174-5.
[2] M. Overton and B. M. S. Campbell, 'Productivity change in European agricultural development', in Campbell and Overton (eds.), *Land Labour and Livestock* (Manchester, 1991), 1.

This thesis focuses on the years between the Restoration and the Union with England. It was a period of transition at a critical stage in Scotland's history. The mid-century revolutionary wars that ended in defeat and occupation by the English devastated Scotland's political, social and economic base. The nation that emerged over the following half century was changed fundamentally from that which had confronted Charles I. The Restoration of Charles II in 1660 did not - and could not - re-create the country that had gone to war in the 1630s.[4]

The landscape on which the new socio-economic order was established differed in many ways from that which had existed in the first decades of the century. One of the most important changes was that violent feud had disappeared from most of Lowland Scotland.[5] This had considerable consequences for agricultural improvement. There was no longer the threat of the devastation to crops caused by the warring of neighbours. The improvement in local security allowed landlords to contemplate the investment of precious resources in their residences and estates, and tenants in their farms. Lairds no longer needed the safety of stark defensive towers but could build more comfortable houses and enjoy the option of surrounding their residences with attractive grounds and trees that would provide shelter from the elements, rather than offer cover to approaching enemies.[6]

Rural estates no longer had to be geared towards the support of an army of feudal followers; their primary purpose was now the production of revenue. The relationship between landowners and those who lived and worked on their estates had become essentially an economic one. D. Stevenson argues that the period of covenanting rule, followed by the Cromwellian regime, seriously weakened the concept of 'lordship' in the Lowlands.[7] Those who had once been 'followers' were now tenants (the majority of whom had legally binding written leases), sub-tenants or paid servants.[8] Nevertheless, strong elements of the paternal lordship that was central to the bond between lairds and those who lived within their domains

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[3] I. D. Whyte, *Agriculture and Society in Seventeenth Century Scotland* (Edinburgh, 1979).
[4] D. Stevenson, 'The Effects of Revolution and Conquest on Scotland', in R. Mitchison, and P. Roebuck, (eds.), *Economy and Society in Scotland and Ireland* (Edinburgh, 1988), 48-57.
[5] *Ibid*, 50.
[6] A. H. Miller, (ed.), *The Glamis Book of Record* (Edinburgh, 1890), 33.
[7] Stevenson, 'Revolution and Conquest', 50-51.
[8] Whyte, *Agriculture and Society*, 157.

remained.[9] The dualism of the economic and the feudal that defined relationships within rural society, the tensions attendant upon it and its impact on the pace of commercialisation and agricultural improvement, is a theme central to this thesis.

There are a number of reasons that make the Carse of Gowrie not only an interesting subject of research in itself, but also one which can illuminate some important aspects of Scotland's economic development. The district is a relatively small and compact rural area lying immediately to the north of the Firth of Tay. It was removed from the immediate influence of Edinburgh (Scotland's capital and, in the period of this study, by far the most important economic centre with the largest urban population). At the beginning of the period under review Dundee, to the immediate east of the district, was Scotland's second largest and most important burgh after Edinburgh, but in relative terms suffered a serious decline in the second half of the seventeenth century.[10] By the time of the Union with England, Perth, on the district's western boundary, had developed into the country's major market centre for linen, Scotland's premier manufacture and principal export.

The farmland of the Carse of Gowrie encompassed both good arable land and hill pasture and, as such, was not untypical of much of the eastern Lowlands of Scotland. In the early-modern period it was already established as one of Scotland's premier grain growing areas. Wheat was produced on a large scale and exported along with oats, bere and malt. Farming in the area was a commercial business, not merely a means of subsistence. The Carse of Gowrie was a progressive district in the mainstream of Lowland Scotland's agriculture and rural manufacture at a time when the countryside dominated the nation's socio-economy. There has been no previous detailed historical study focusing on the Carse of Gowrie in the seventeenth century. There are sufficient contemporary records extant to make an in-depth study possible.

I. D. Whyte argues that although technical innovations in agriculture were implemented in the seventeenth century, these were limited in their scale and that the most important contribution of the seventeenth and early eighteenth centuries

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[9] T. C. Smout, *A History of the Scottish People, 1560-1830* (Hammersmith, 1998), 262.
[10] T. C. Smout, *Scottish Trade on the Eve of Union 1660-1707,* (Edinburgh, 1963), 140.

to agrarian change in Scotland were organisational changes.[11] Such organisational changes encompassed the re-shaping of rural society and the modification of farm structures to produce more commercially efficient units of production. He states that, without these changes, the more spectacular technical developments of the later eighteenth century would not have been possible.[12] This thesis will look at farm and estate structure in the Carse of Gowrie in the second half of the seventeenth century and at the nature of the changes being made. It will also explore the extent to which technical changes were being implemented and whether, along with an increase in the amount of land under cultivation, real improvements in productivity were being achieved.

In *The Transformation of Rural Scotland*, T. M Devine argues that in the last quarter of the eighteenth century there was a radical departure from patterns of the past and that 'to a considerable extent this was a revolution from above, with landlord power a principal influence and the landlord's craving for more revenue a central force'.[13] T. C. Smout has described the power of landlords, before the middle of the nineteenth century and within their own country estates, 'as little to be questioned as the power of God who brought the seedtime in spring and the harvest at the end of the summer'.[14] The landlords' sphere of control encompassed the social order and the local economy. Lowland landlords meted out local justice through the baron courts, at the head of which they or their representatives sat. As heritors, they nominated the parish minister and examined the schoolmaster, the ideological teachers of the community. Together with the kirk-session, they controlled the distribution of relief to the poor. In the awarding of leases and the receiving of rents from their lands, they were at the centre of the local economy.[15] Their households and estates were by far the biggest businesses in rural areas and as such were the principal sources of employment as well as the largest local consumers of produce.

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[11] I. D. Whyte, 'The agricultural revolution in Scotland: contributions to the debate', *Area*, 10 (1978), 203-5. Examples given of technical innovations are: enclosure, new crops and rotations and improved implements.
[12] Whyte, 'Contributions to the debate', 203-5.
[13] T. M.Devine, *The Transformation of Rural Scotland, Social Change and the Agrarian Economy, 1660-1815* (Edinburgh, 1994), 165.
[14] Smout, *History of the Scottish People*, 261.
[15] *Ibid*, 261-3

Power and domination on the scale portrayed above indicates that only the landlords were in a position either to bring about, or allow, the transformation described by Professor Devine. He concludes, however, that a 'new and dynamic force' enabled the speed of the transformation: a pool of tenants within the existing social structure who had the capital resources and the commercial expertise to respond to the new opportunities.[16] The traditional system whereby rent was paid in kind is identified as shielding tenants from the market place and as a disincentive to enterprise and progressive farm management. This system, he argues, underwent a fundamental alteration in the first few decades of the eighteenth century, with a move towards cash rents drawing the tenant farming class into further contact with the market, so creating a more commercial and competitive environment and the broader development of money relationships in the countryside.[17] This thesis will examine the way in which rents were paid in the Carse of Gowrie in the second half of the seventeenth century and endeavour to ascertain the impact this had on the level and development of commercialisation in the district. It will explore the degree to which tenants with resources and expertise were already present.

In summary, this thesis will present a study of one rural district of Lowland Scotland. It will endeavour to ascertain the level of population, patterns of landholding, social structure, the nature of the agriculture carried on and its productivity. It will also examine the extent of rural industry and the developing levels of commercialisation that existed within the Carse of Gowrie across all sectors of the population, in the second half of the seventeenth century. It will consider the impact that the display of their wealth and status by landowners, in modernising and beautifying their residences, had on the local economy. It will explore the tensions that existed between the maintenance of the traditional control, based on feudal principles, exercised by landlords over their tenants and the commercial freedom that the need for ever-increasing monetary income demanded.

In an attempt to gain as full a picture of the district as possible, a wide a range of sources from the period under the review has been sought and used. The most abundant records that survive are those of the largest landowners, preserved

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[16] Devine, *Transformation*, 165-6.
[17] *Ibid,* 23-5.

through the centuries in the safety of castle muniment rooms, many of which are now deposited in and made available by local and national archives.[18] These have provided a wealth of research material; foremost among them, in scope and detail, have been the Papers of the Earl of Strathmore pertaining to the estate of Castle Lyon.[19]

As observed by I. D. Whyte, contemporary, private and factual business records are valuable not only for the extent and detail of the information they contain, but also in that their original purpose was estate management.[20] In consequence, they are to a large extent free of the subjectivity and bias of which many of the descriptive accounts left by eighteenth century chroniclers of agricultural improvement stand accused. It is to be remembered, however, that the picture they present still remains the perspective of the landowner. The business of tenants, outwith the payment or non-payment of rent, or serious dispute, is rarely recorded. The large majority of the estate population who neither held land directly from the laird, nor were employed by the estate, have little reason to appear at all. The picture is further slanted towards that of the small minority of the largest landowners, in that extant records from lesser proprietors of the period, who inhabited sometimes very modest accommodation and whose fortunes did not stand the test of time, are rare.

In the search for information pertaining to the lower echelons of society Kirk Session records and Old Parish Registers for the Carse of Gowrie have been consulted.[21] Testaments from the Commissary Courts have provided an important window, not only on the extent of assets and levels of debt and credit, but also on the family and financial ties and relationships that existed within and between the social strata.[22] The Poll Tax returns for only one small estate in the district are extant, but Hearth Tax records have provided the basis for a calculation of the number of inhabitants in the district and, when used in conjunction with detailed estate rentals, give insight into the social structure of the population.[23]

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[18] The full list of estate papers consulted are contained within the bibliography of this thesis.
[19] NRA(S) 885.
[20] Whyte, *Agriculture and Society*, 5.
[21] DCRAC, CH2/249.
[22] NAS, CC/20/4.
[23] NAS, GD316/10, Matthew of Gourdiehill; J. F. Mitchell, *Monumental Inscriptions (pre-1855) in South Perthshire,* (Scottish Genealogy Society 1974); NAS, E69/19; PKAC, B59/38/6/30.

Other important primary sources include the shipping registers for Dundee as well as the surviving customs records for both Perth and Dundee, which though incomplete, present a valuable glimpse into the trade of the region and the scale of linen exports.[24] Maps, illustrations and the narratives of contemporary travellers have added some flesh to the bones of business accounts and statistics.

[24] DCRAC, Shipping registers; NAS, E72/7 and 18.

Chapter 2

The Carse of Gowrie – Description and Vital Statistics

2.1 Introduction

The focus of this thesis is the relationship and the interaction of society, economy and agricultural improvement within the Carse of Gowrie. Subsequent chapters consider the three main elements of the equation as they are given above, but the subject of this one is the last part, the district itself. For it is the geography – the location, physical features, natural resources, climate - that, more than any other single factor, determines the nature and character of the Carse of Gowrie, the population that could be supported and its poverty or wealth.

A principal feature of Lowland Scotland and a difficulty faced by historians of its agrarian change is the geographic diversity of the region. The type of agriculture that can be carried on and the productivity of crops grown are, overwhelmingly, dependent on climate, elevation, soil, and drainage. A very wide range of conditions and types of land are to be found across the country. In spite of the name 'Lowland', there are large tracts that consist of hill and moorland unsuitable for cultivation. Extensive areas of land, termed marginal in agricultural parlance, can grow arable crops but not always with success. There are also, however, substantial areas of fertile ground as in the Merse, Strathmore, parts of Angus, the Lothians and the upper Clyde valley - as well as the Carse of Gowrie - that include farming land as good as any in Britain.

With regard to climate, differences go beyond the relatively higher rainfall and warmer winters of the more temperate west, when compared to the drier weather and more extreme temperatures expected nearer the east coast. Variations in altitude, elevation and the existence or otherwise of shelter from prevailing winds

and frosts, produce very localised weather patterns. In terms of agricultural capability, even neighbouring districts can differ very significantly from each other.

No one district is representative of the region as a whole nor is it possible to make any broad-brush generalisation about the nature and development of agriculture across Lowland Scotland that will not obscure as much as it reveals. Factors within one area can, however, bear useful and productive comparison with the situation found in others. It is for these reasons that local case studies, carried out in some depth, are so important in furthering our understanding of Scotland's rural development in the early modern period.

The purpose of this chapter is to provide a context within which the changes and developments that were occurring in the period under research can be assessed. It will present a picture of the Carse of Gowrie *c.*1650-1707 in terms of its location, area, geography and climate and will explore the impact these physical features had on the nature of the farming carried on there. It will give consideration to the natural resources that were available, the accessibility of markets and the value of the land. The number of people living in the district will be calculated and changes in the level and distribution of the population assessed. In so doing, this chapter will endeavour to establish markers against which other areas of Scotland might be measured and compared.

2.2 Location, Extent, Brief Physical Description and Climate

The district that is the Carse of Gowrie is located in southeast Perthshire. It corresponds, in general terms, to the area of land that stretches between the towns of Perth and Dundee, bounded to the north by the southern arm of the Sidlaw hills and to the south by the estuary of the river Tay. It measures approximately fifteen miles in length and five miles in breadth. In a 1785 Act of Parliament concerned with the regulation of statute labour, it was designated as comprising the whole of the Perthshire parishes of Longforgan, Inchture, Abernyte, Kinnaird, Kilspindie, Errol, St. Madoes and Kinfauns, together with parts of Kinnoull. It is on these parishes that the research for this thesis is primarily focused. The location of the Carse of Gowrie can be seen in Figure 2.1.

Rationalisation of some of the parish boundaries (notably those of Kinnoull, a substantial part of which lies outwith the area designated as the Carse of Gowrie) was carried out in the nineteenth century. Further changes were made to the county boundary in the second half of the twentieth century. However, the various borders of the district in the second half of the seventeenth century were not dissimilar to those drawn in the First Edition of the Ordnance Survey (1859-64). The sizes of individual parishes and the extent of the district as a whole, quoted and used in this thesis, have been based on this survey.

The land area (including the whole of the parish of Kinnoull) extends to approximately 17,500 hectares.[1] It should be noted that, in addition, some parishes bordering the Tay have substantial areas of foreshore that measure, in total, a further 2,700 hectares approximately.[2] Reports in the Old Statistical Account complain of land loss to the river and describe the efforts made to counter erosion.[3]

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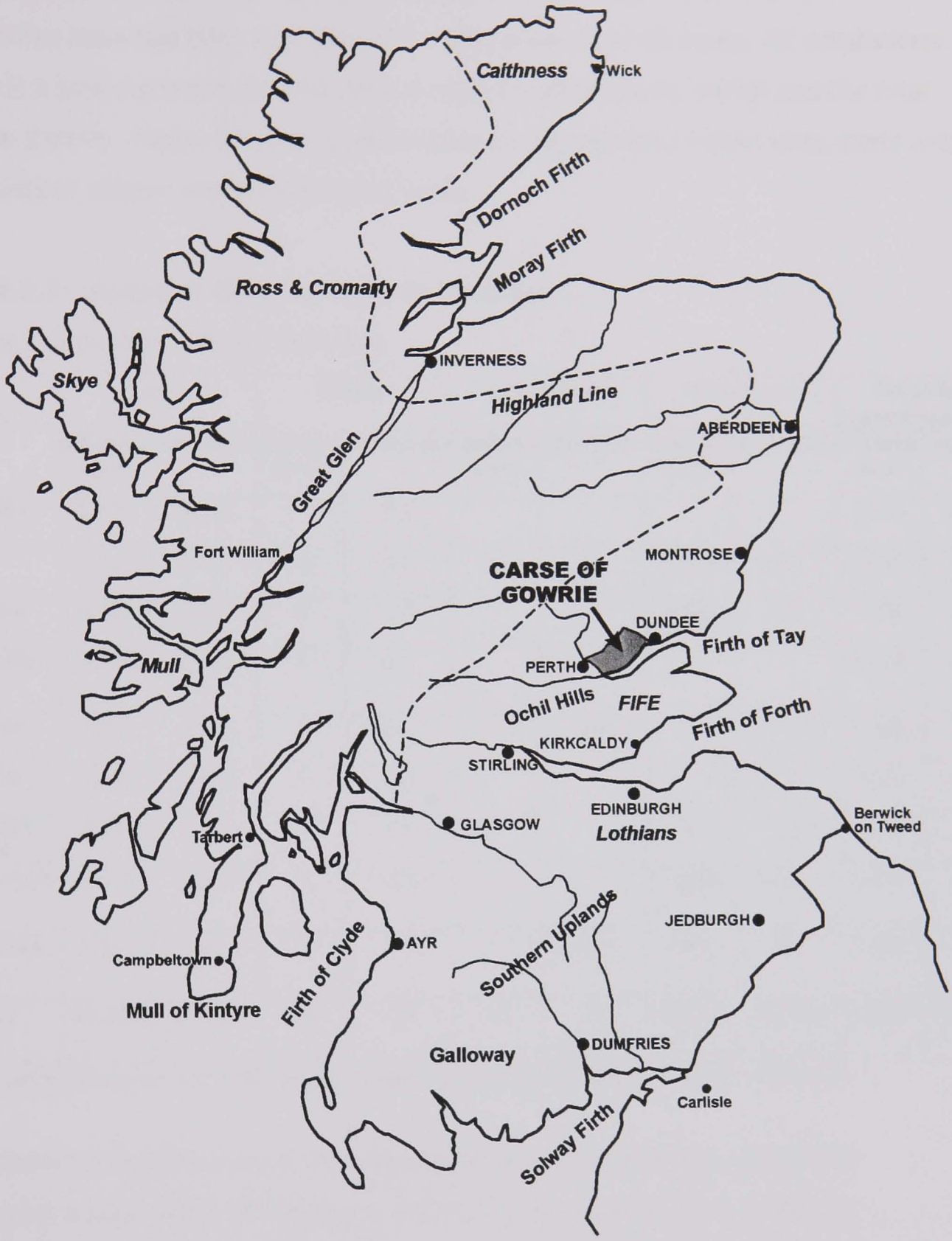
[1] *Ordnance Survey of Scotland, Dia-gram of Perthshire & Clackmannanshire,* (Surveyed 1859-64 and Revised in 1894).
[2] Table 2.1.
[3] *OSA,* Vol. XI, 176 (Errol) and 320-1 (Longforgan).

Figure 2.1 Carse of Gowrie: Location



The successful establishment of reed beds in the late eighteenth and early part of the nineteenth century was responsible in part for the creation of large areas of foreshore; none has been included in the land areas used as a base for calculations. Table 2.1 sets out the measured area of each Carse of Gowrie parish and the total for the district. Figure 2.2 shows parish boundaries, principal settlements, ports and the seats of estates mentioned in this thesis.

Table 2.1: Areas of Carse of Gowrie Parishes

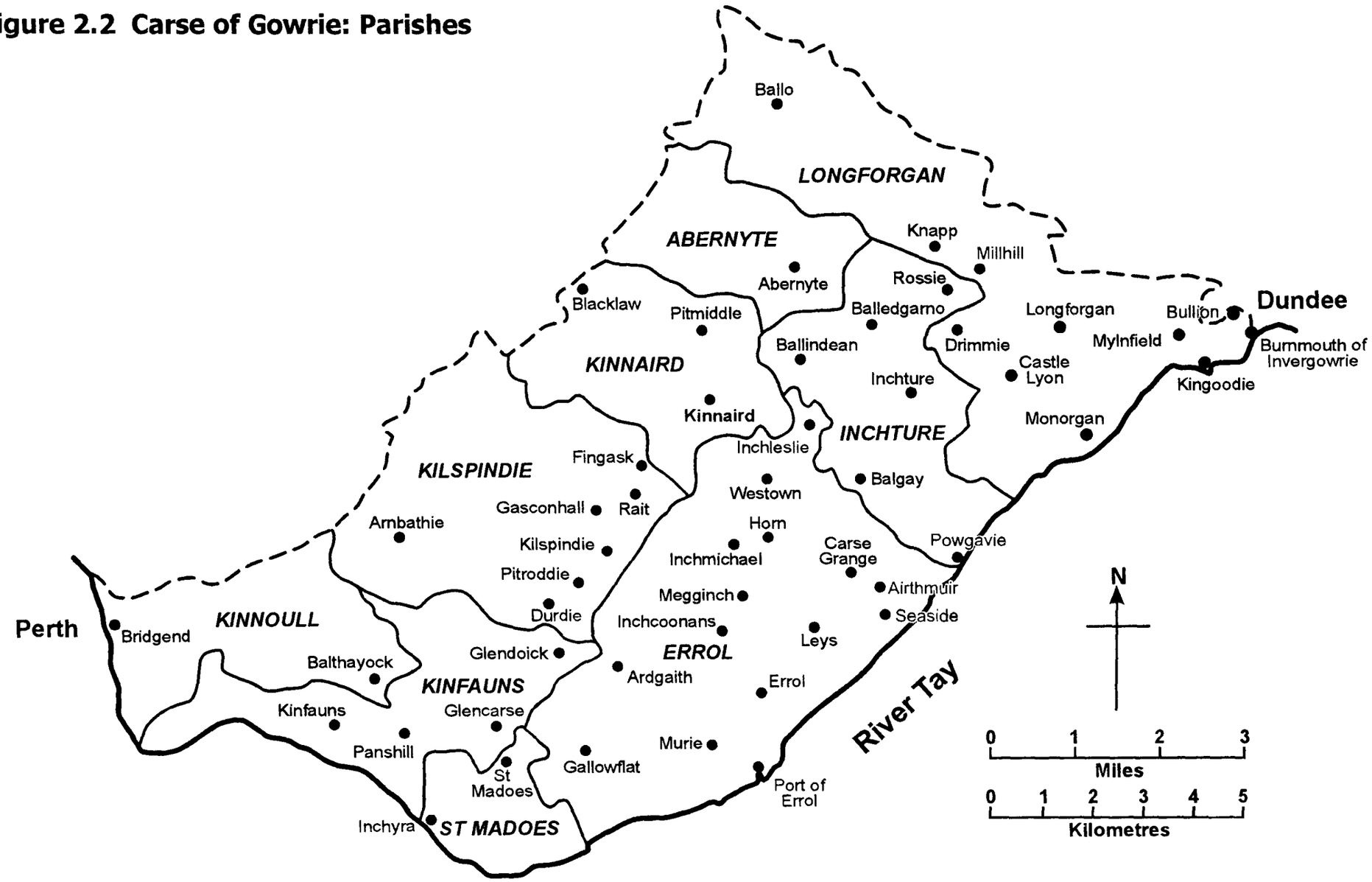
Source: Ordnance Survey (1859-64).

Parish	Land		Water		Salt Marsh		Foreshore		Total Area (Less Foreshore)	
	Statute acres	Hectares	Statute acres	Hectares	Statute acres	Hectares	Statute acres	Hectares	Statute acres	Hectares
Abernyte	2,533	1,026	1	0.5					2,534	1,026
Errol	9,510	3,852	10	4.0	23	9	2,312	936	9,543	3,865
Inchture	4,122	1,669	8	3.0			1,392	564	4,130	1,673
Kilspindie	6,257	2,534	1	0.5					6,258	2,534
Kinfauns	3,884	1,573	1	0.5	1	0.4	84	34	3,886	1,574
Kinnaird	3,495	1,415	5	2.0					3,500	1,417
Kinnoull*	3,331	1,349	2	1.0			6	2	3,333	1,350
Longforgan	8,526	3,453	31	12.0			2,658	1,077	8,557	3,466
St Madoes	1,561	632	1	0.5	1	0.4	173	70	1,563	633
Totals	**43,219**	**17,503**	**60**	**24**	**25**	**10**	**6,625**	**2,683**	**43,304**	**17,538**

*The areas given for Kinnoull parish include land lying outside the Carse of Gowrie.

The district is divided more or less equally between lowland and upland and embraces a wide range of soil types, differences in elevation and quality of drainage. Together with climate, these physical factors determine the type of farming that can be carried on, the range and success of the crops grown and the numbers and nature of the livestock supported. Within the Carse of Gowrie there is some of the most fertile and productive arable land in Scotland as well as substantial areas able only to support pasture of poor quality.

Figure 2.2 Carse of Gowrie: Parishes



Just under half of the land area of the Carse of Gowrie is comprised of a low-lying plain of estuarine clays, a substantial part of which lies less than ten metres above sea level. This heavy, ill-drained, but potentially very fertile ground is locally known and referred to as 'carse-land'. High levels of investment in terms of capital, expertise and energy are needed to overcome inherent problems of drainage and to work this soil successfully. Its natural fertility, however, offered the possibility of high reward to farmers in the past. Mapping carried out by the Macauley Institute's *Soil Survey of Scotland, Land-Use Capability for Agriculture*[4] classifies the large majority of the carse-land as 3_1.[5] Within and bordering the estuarine clay are a number of sandstone 'islands'. These are known locally as inches and stand above the level of the carse-land; the soils of these are, for the most part, extremely fertile with good natural drainage and classified as Class 2.[6]

The remainder of the district is an upland area, part of the Sidlaw hills called the Braes of the Carse. The underlying rock is predominantly volcanic in origin and a strong, fertile, black loam of varying depth covers much of the lower slopes, substantial areas of which are also classified as 3_1 but with steeper slopes as 3_2[7]. As the ground rises, the soil becomes lighter and less fertile and the land capability for agriculture is within Class 5.[8]

The mean height of much of the hill land is between 150 and 200 metres, rising to 377 metres at the summit of King's Seat, the highest point. (See Figure 2.3: Relief; Figure 2.4: Soils; and Figure 2.5: Land Capability for Agriculture.)

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[4] *Soil Survey of Scotland, Land Capability for Agriculture,* Sheet 5, Eastern Scotland (1983).
[5] *Ibid.,* Land Classification - 3_1: 'Land in this division is capable of producing consistently high yields of a narrow range of crops (principally cereals and grass) and/or moderate yields of a wider range (including potatoes, field beans and other vegetables and root crops). Short grass leys are common.'
[6] *Ibid.,* Land Classification - 2: 'Land capable of producing a wide range of crops with some physical or climatic limitations. ... The limitations are always minor in their effects and land in the class is highly productive.'
[7] *Ibid.,* Land Classification.- 3_2: 'This land is capable of average production but high yields of barley, oats and grass are often obtained ... Grass leys are common and reflect the increasing growth limitations for arable crops and degree of risk involved in their production.'
[8] *Ibid.,* Land Classification – 5: 'The agricultural use of land in Class 5 is restricted to grass production but such land frequently plays an important role in the economy of British hill lands. ... Grass yields within the class can be variable and difficulties in production and particularly utilisation are common.'

The low hills that encircle the Tay estuary provide shelter from extremes of weather. There are an above average number of frost-free days that, together with the long hours of summer daylight to be found at latitude 56° North, provide a relatively long growing season. Rainfall is consistently less than thirty inches per annum[9] and low in comparison with Scotland as a whole.[10] At the onset of the 'Little Ice Age' in the later seventeenth century, evidence suggests that although the Carse of Gowrie was badly affected by the deterioration in the weather, it fared better than many other more exposed areas.[11]

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[9] *OSA*, Vol. XI, 314 (Longforgan); *NSA,* Vol. X, 371 (Errol).
[10] A. N. L. Hodd, *Agricultural Change in the Carse of Gowrie, 1750-1875* (Unpublished PhD thesis, University of Dundee, 1974), 22-26.
[11] See Chapter 2.7, below.

Figure 2.3 Carse of Gowrie: Relief

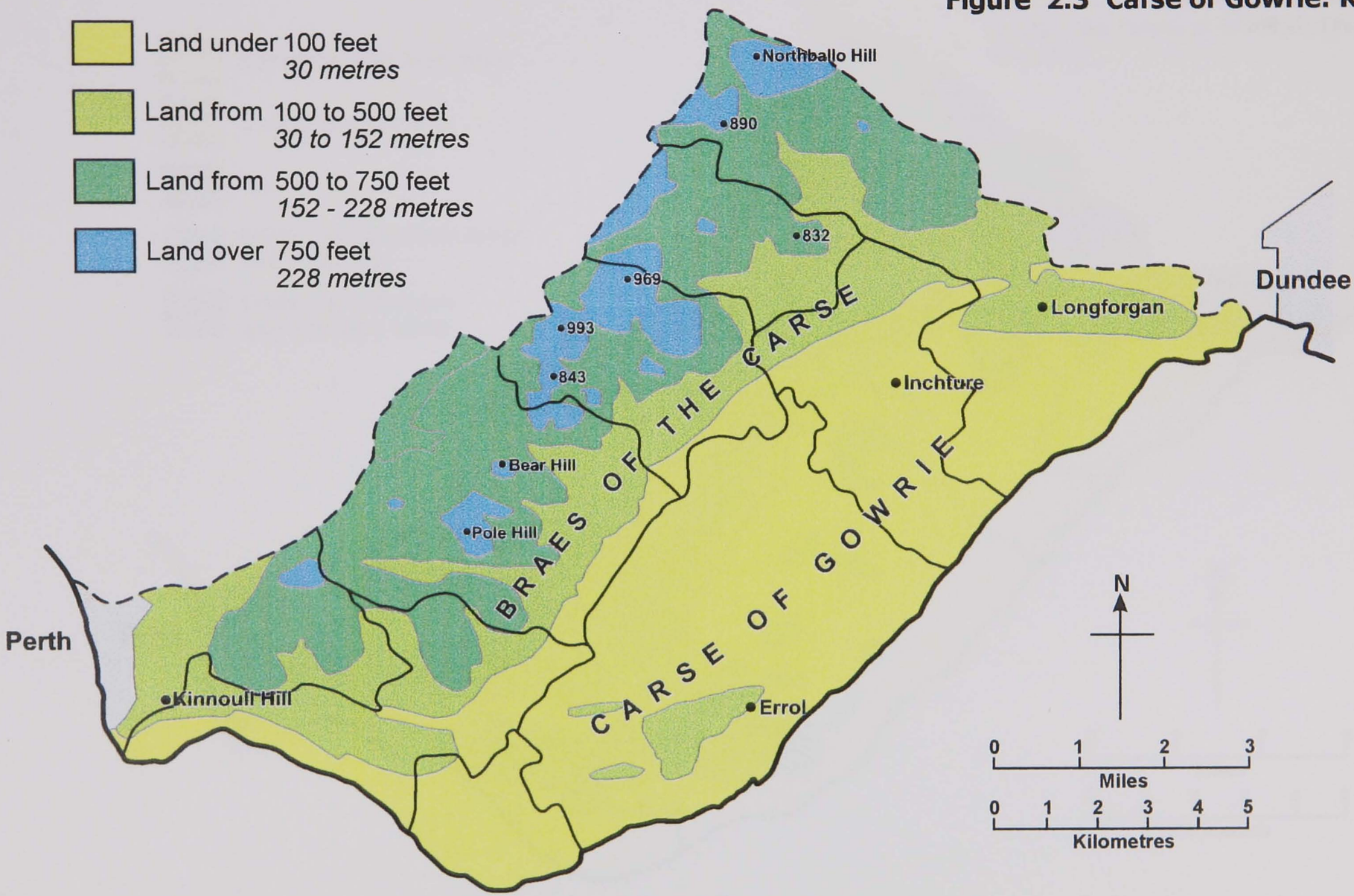


Figure 2.4 Carse of Gowrie: Soils

Source: Soil Survey of Scotland (1965), sheets 48 and 49

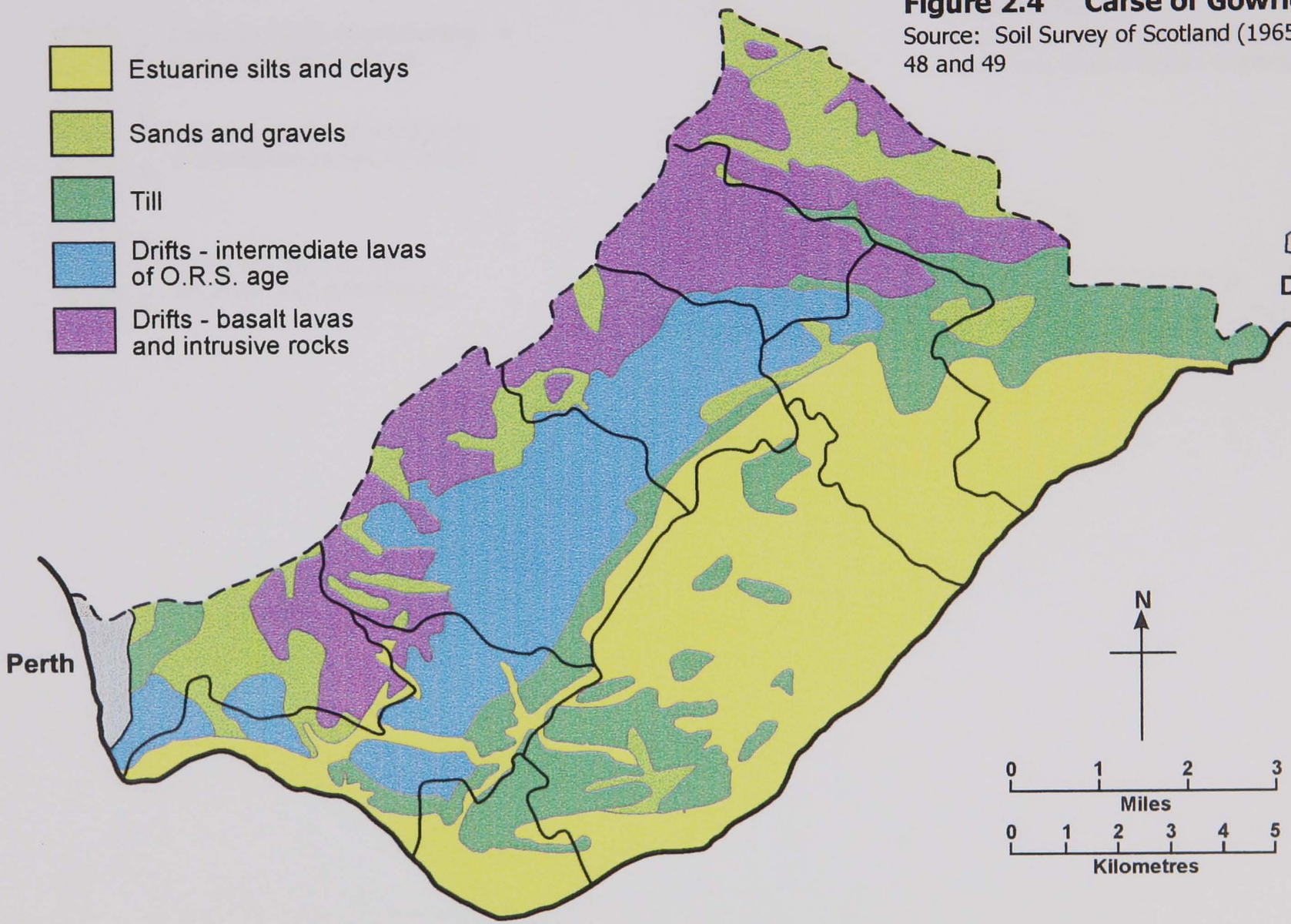
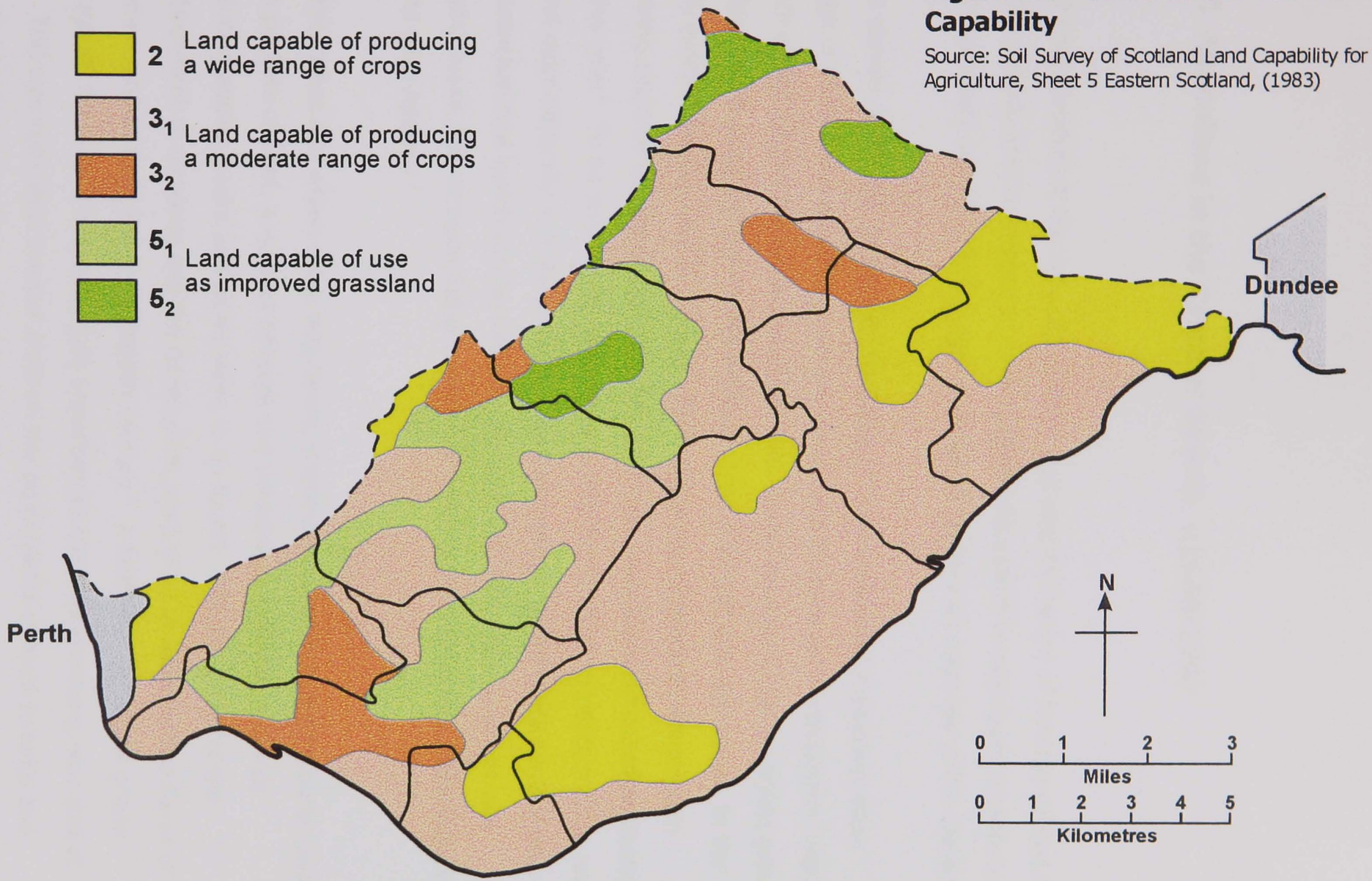


Figure 2.5 Carse of Gowrie: Land Capability

Source: Soil Survey of Scotland Land Capability for Agriculture, Sheet 5 Eastern Scotland, (1983)



2.3 Agriculture in the Carse of Gowrie, *c.*1660-1707

The crops produced, the type of livestock kept and the nature of farming carried on in the district, are the subject of more detailed discussion in subsequent chapters; a brief summary only is included here, in order to present an overview of the district.

The climate and fertile ground of the Carse of Gowrie enabled a relatively wide range of crops to be grown successfully on a commercial scale in comparison with much of Scotland in the seventeenth century. Oats and bere were the grains grown in the largest quantity, but a substantial acreage of wheat was also sown. In the early modern period, only in the more favoured areas of Scotland where grain growing could be carried out on a commercial scale, was there sustained production of this crop.[1] To be successful, wheat needs a higher level of nutrients such as are found more naturally in heavier soils, as well as a longer growing season and drier climate than that which can be tolerated by oats and bere. Where wheat was grown, pease, the nitrogen fixing qualities of which boost soil fertility, were included in the crop rotation.[2]

On the inches and where there was fertile, sheltered and well-drained ground, away from pockets of frost, a number of large and valuable commercial orchards producing apples, pears and plums were to be found. Written record of the establishment of orchards and the commercial production of wheat in the Carse of Gowrie stretches back into the fifteenth century.[3] A further crop, widely grown throughout the district and extremely important to the local economy, was that of flax. This was cultivated in small plots on the possessions of most tenants and cottars, by whom it was processed into lint.[4]

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[1] Whyte, *Agriculture and Society*, 63-5.
[2] See, for instance NRA(S) 885, 64/1/1-22 (1671-1695).
[3] C. Rogers (ed.), *Rental of the Cistercian Abbey of Cupar-Angus* (Grampian Club, 1879), Vol. I, 188:232 (1473) and 220:292 (1471).
[4] See Chapter 4.6, below.

Where crops were grown, rig and furrow cultivation within the infield-outfield system of farming predominated. This system was in place throughout most of Scotland, and indeed much of Europe, during this period.[5] Rentals suggest that as well as the fertile and well-drained ground of the inches and lower slopes, substantial areas of both the braes and the carse-land were under cultivation, at least as outfield, with only the steepest and higher ground of the braes and wetter areas of the carse-land under permanent pasture.[6] Surface drainage was embodied within the rig and furrow system of cultivation. The practice of ploughing the soil away from the edges and towards the centre of the rig gave it a raised and rounded form that encouraged water to drain away to the lower level of the furrows that separated the rigs. Nevertheless, in the seventeenth century substantial areas of the lowest-lying carse-land remained marsh. The largest tract of such ground was at the foot of the Braes of the Carse and stretched from Glendoick eastward as far as Ballindean and is indicated on John Adair's map of 1683.[7]

Prior to the twentieth century, livestock were an essential part of all farming systems, including those that were predominantly arable. In addition to their intrinsic value in terms of milk, meat, hides, wool, horn and the like, domestic animals were the principal source of the manure that was crucial to the maintenance of soil fertility. Oxen and horses also represented the primary sources of traction and motive power. Even those areas of the Carse of Gowrie that, in relative terms, were intensively cropped, needed also to incorporate sufficient grazing to maintain large numbers of livestock.

There is little mention of pigs and goats in the records that survive pertaining to the Carse of Gowrie. Pigs were traditionally kept to consume the waste generated by the milling process and swine feature in the rent paid by corn millers.[8] Occasional references also suggest they were kept by some of the largest tenants, particularly

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[5] Whyte, *Agriculture and Society,* 60-1. For a detailed description of the infield-outfield system of farming, see R. A. Dodgshon, *Land and Society in Early Scotland,* (Oxford, 1981), 229-241.
[6] NAS, GD26/5/250, Leven & Melville Muniments (Inchleslie estate 1674); PKAC, MS169/14/2/8 Threipland of Fingask (Kinnaird estate, 1696); PKAC, MS/97/2 Hunter of Glencarse (Glencarse and Paunshill, 1698).
[7] J. Adair, *The mappe of Straithern, Stormont & Cars of Gourie* (1683). (Figure 2.6, below, is an extract from this map).
[8] PKAC, MS100/963 Kinnaird Papers (Barony of Errol, 1634).

Figure 2.6 Extract from John Adair, *The Mappe of Straithern, Stormont and Cars of Gourie* (1683).
Reproduced by permission of the Trustees of the National Library of Scotland.

those who brewed.[9] Payments to cattle herds, shepherds and hen-wives are to be found in estate accounts[10] but there is no similar mention of swineherds. Pigs are strong, intelligent, destructive scavengers and hard to control. They require either stout walls to keep them confined or extensive scrubland or mature woods where they can roam without causing too much damage. The majority of fencing and even the walls of most lower status houses and buildings in the Carse of Gowrie in the seventeenth century were made with feal and would not have withstood a marauding pig for long.[11] Pig-keeping on any scale would not have been suited to this relatively intensively cultivated district.

Of goats, no specific mention has so far been found. Their absence from the rentals - even of those estates with brae land such as Fingask, Kinnaird and Inchleslie - suggest that if any were kept, their numbers were small. Their absence on paper may not, however, reflect their absence in fact, for such small hardy animals - capable of being tethered and requiring relatively small quantities of food - would be within the province of the cottars and smallholders. Written record was almost solely within the realm of the lairds. Customs records show that large numbers of goatskins were exported from both Perth and Dundee and the availability of kidskin would be a pre-requisite of Perth's important glove manufacturing and trade in the second half of the seventeenth century, but the source for most of the skins was likely to have been Highland areas.[12]

Sheep also fail to find their way on to Carse of Gowrie rentals, but frequent references to them elsewhere – in other accounts, in connection with their wool and in testaments – indicate that flocks, if on the whole small, were common throughout the district.[13]

Cattle were the livestock that predominated - cows to produce milk and calves, oxen to pull wains and ploughs, and for their meat.[14] Sizeable herds were kept on mains

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[9] NRA(S) 885, 141/11, (Castle Lyon, tack of Thomas Davie, elder, 1683); 54/1/14 (Four pigs bought by the Castle from Patrick Mories, tenant in Rawes, 1705).
[10] NRA(S) 885, 64/1/16, (1690).
[11] Feal: turfs used for building.
[12] NAS E72/18/1 and 2 (Perth, 1682 and 1683); E72/7/9 (Dundee, 1682); Whyte, *Agriculture and Society,* 81.
[13] See Chapter 4.4, below.
[14] Wain: a wagon.

and large tenanted farms, but at least one cow was possessed by almost all who had any access to land or could rent grazing.[15] In addition, on those areas of carse-land that were too poorly drained to cultivate and also on the permanent pasture of the higher braes, large communal herds were grazed.[16]

[15] NRA(S) 885, 190/1/23 (1691).
[16] NAS, GD26/5/248 and 250, (1650 and 1674).

2.4 Natural resources, industry, manufactures and markets

By the second half of the seventeenth century little, if any, natural woodland remained in the district. The earliest surviving map of the area is a survey by Timothy Pont carried out *c.*1590.[1] On this, representations of trees on the hillside behind Fingask in the parish of Kilspindie suggest the possible presence of some woodland at that time. Adair's map (Figure 2.6, above) however, shows no woodland on the braes, but does indicate a substantial increase in the number of trees planted in the vicinity of most of the major houses, in avenues and around enclosures, compared to what is suggested by the Pont survey.

Mineral resources capable of being utilised on a commercial basis were limited. There were no coal or limestone deposits, or metal ores suitable for commercial exploitation.[2] There are outcrops of stone, some of good quality. Much of the sandstone of the area is quite soft, and across the centuries deposits have been worked in numerous small local quarries. The quarrying of high quality building stone on a large commercial scale was carried out at Kingoodie (where the proximity of the Tay facilitated transport) from the seventeenth to the twentieth centuries.[3] Road stone from volcanic deposits was quarried and broken in the Knapp, on the border between Abernyte and Longforgan parishes but not until the nineteenth and twentieth centuries; this continues at Collace, on the northern edge of Kinnaird and Abernyte parishes. In the seventeenth century, paved roads were not a feature of the Carse of Gowrie or, for that matter, of Scotland at large and these reserves were not exploited at that time.

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[1] NLS, *Pont 26,* part of lower Angus and Perthshire east of the Tay. (Figure 2.7, below, is an extract from this map showing the Carse of Gowrie.)

[2] Test drills for coal were carried out without success on the muir of Longforgan in the 1690s, NRA(S) 885, 50/1/32 (3). Some marl was extracted from various sites in the eighteenth century but the deposits do not seem to have been large, *OSA*, Vol. XI, 319 (Longforgan). Copper was extracted from Milton Den in Abernyte parish in the nineteenth century, but the deposits were insufficient to sustain the venture, L. Thomson, *Abernyte, the Gem of the Carse* (unpublished history and memoir, 1945), 3.

[3] E. Gauldie, *The Quarries and the Feus, A History of Invergowrie* (Dundee, 1981), 41-56; NRA(S) 885, 190/1/22 (1690).

Figure 2.7 Extract from Timothy Pont, *Lower Angus and Perthshire east of the Tay* (Pont 26, *c.*1590).
Reproduced by permission of the Trustees of the National Library of Scotland.

The mineral deposit for which the Carse of Gowrie is probably most renowned is clay, but the extent to which it may have been exploited on a commercial basis in the seventeenth century is uncertain. It is a coarse clay, unsuitable for high quality ware, but which at different times throughout history[4] - and in the present day - has been the source material for thriving brick and tile manufactories. The farm steading and courtyard at Megginch Castle, in the parish of Errol, dates from the very early years of the eighteenth century and the receipts for the local bricks with which they were built are still held in the muniment room there.[5] There is little evidence for brick or tile-making on a commercial scale in the seventeenth century, in terms either of surviving buildings using these materials, or in the extant written record. There is, however, substantial evidence of the existence of early clay pits in the vicinity of Errol and indication of the likely existence of kiln sites possibly for the manufacture of coarse pottery.[6]

Evidence for the limited extent of industry in the Carse of Gowrie comes from the survey by Timothy Pont. Symbols that recur repeatedly on *Pont 26* are those of small semicircles and circles drawn against a number of the buildings and settlements represented on the map - approximately 50 of these symbols are sited within the area of the Carse of Gowrie. Their number and locations indicate that these represent kilns and furnaces. A large proportion of the representations can be accounted for in terms of the number of kilns that were needed by all rural communities to provide the heat required in the brewing process of the ale that was, in its various forms, the ubiquitous drink.[7] Kilns were also used for drying grain before milling and to facilitate long term storage. Where, on the survey, numbers of these symbols in a locality exceed the one or two kilns that would be necessary to support an agricultural community, it can be inferred that some additional industry or manufacture was being carried on.

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[4] Research suggests that the manufacture of tiles was carried on in Roman times. (Andrew Clegg, Errol Brick Works, Inchcoonans.)
[5] Conversation with Captain Humphrey Drummond, husband of the proprietor of Megginch, June 1999.
[6] D. W. Hall, 'The Scottish medieval pottery industry: a pilot study', in *Tayside and Fife Archaeological Journal*, Volume 4, 1998, 170-178.
[7] Poor sanitation and polluted water supplies made ale, on the whole, a safer drink than water.

Concentrations of these symbols on *Pont 26* are to be seen at Bridgend, immediately across the Tay from Perth. Archaeological excavations by D. W. Hall of the Scottish Urban Archaeological Trust reveal that the common building materials used in low-status housing in mediaeval and early modern Perth were wood, straw and reeds. These presented a considerable and recognised fire hazard to the town. Bridgend, linked to Perth until 1621 by the early bridge would, in the period Pont was carrying out his surveys, have provided a convenient but safe situation for the many kilns, furnaces and ovens required to meet the needs of this large town. A further small concentration of these symbols is to be found in the area between Kinfauns, Balthayock and Panshill, where the fall of the Glencarse burn is likely to have provided sufficient waterpower for some industrial activity. A complex of what appear to be large kilns is situated at the port of Inchyra on a site adjacent to the mouth of the Glencarse burn. It is possible that these were kilns used for burning the 'raw' lime shipped the short distance across the Tay from Newburgh in Fife. A relatively large number of the symbols are also represented in the vicinity of Chapelton (modern Chapelhill), adjacent to clay deposits that are still being worked in the present day.

Circumstantial evidence in support of the above comes from the 1691 Hearth Tax returns for the Carse of Gowrie[8]. Out of a total of 2,015 hearths declared for the district, only sixty-six (3%) are listed as being 'non-domestic', that is, kilns, ovens, furnaces, smiddies or washhouses. This is admittedly a very small percentage and it is quite likely that a good many such hearths were not separately identified, or possibly even returned. However, by far the highest proportion of non-domestic hearths for the Carse of Gowrie that were declared, were for St Madoes, the small parish where both Chapelton and the kilns at Inchyra were located. There, out of a total of only fifty-six hearths declared, fourteen (25%) were recorded as being kilns. In contrast, only a small number of non-domestic hearths are declared in the returns for Kinnoull parish, where Bridgend is located. In 1691, the early bridge across the Tay at Perth had been down for seventy years and the economy of that previously thriving settlement had altered dramatically from the position it had

[8] NAS, E69/19. The lists for the Carse of Gowrie are reproduced in Mitchell, *Monumental Inscriptions*.

enjoyed at the beginning of the seventeenth century, a circumstance which may well have accounted for the change.[9]

The resources and potential wealth of the Carse of Gowrie was, *c.*1650-1707 therefore, derived almost exclusively from its agricultural productivity. The extent to which this was exploited was dependent on access to markets where surplus produce and manufactures could be sold. The problems imposed by the hills, ill-drained valley floors and the few navigable rivers of Lowland Scotland, in a time when few roads worth the name were in existence, made the carriage of bulky and heavy goods difficult and laborious. Poor access to markets that otherwise could have served to encourage efforts to increase production, is likely to have inhibited the development of many areas.

The Carse of Gowrie had very good access to substantial markets for its produce unlike many areas of the Lowlands. Dundee was a major port with trade links long developed, not only with Edinburgh and Leith and the east coasts of Scotland and England, but also with Scandinavia, the Baltic, France and Holland. Although the roads of the district, particularly on the ill-drained areas of the lower Carse were poor, several important burn-mouth and tidal ports on the river Tay facilitated the carriage of goods by boat.[10] These latter included Bridgend, Inchyra, Port of Errol (now called Port Allen), Powgavie, Monorgan, Kingoodie and Burnmouth of Invergowrie, together with a number of other small landing places. The harbours of Powgavie and Port of Errol were able to take boats larger than that of Perth. On spring tides, it is possible that there was access at Powgavie for vessels of as much as 300 tons burden.[11] Even the most remote area of the Carse of Gowrie, the settlement of Blacklaw on the northern edge of Kinnaird parish, was no more than six miles from one of these ports and well within a day's walk of Perth or Dundee.

The good access to markets enjoyed by the fertile and climatically favoured lands of the Carse of Gowrie fostered commercial farming from an early period. The relative abundance of local produce must also have contributed to the growth and wealth of

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[9] *OSA,* Vol. XI, 297 (Kinnoull).
[10] Until the toll road was built in the 1790s, there was no direct route through the centre of the carse-land. The main road between Perth and Dundee was across the braes.
[11] P. J. Duncan, *The Small Ports and Landing Places of the River Tay* (Unpublished Ph.D. thesis, University of Dundee, 1996), 137-8.

Perth and Dundee. As is revealed in later chapters, the scale of production was sufficient to sustain a substantial population within the district itself, supply neighbouring towns and, in a majority of years, produce surplus grain for export. In addition, there was enough spare capacity to grow the non-food crop, flax, the manufacture of which into linen played a very considerable part in the developing economy.

2.5 Land Value

A good measure of the comparative wealth and prosperity of the district in the period under review is the value of the land and the size of the population that was supported. Land value is determined essentially by the combination of its productivity and location; an assessment on this basis was carried out across the country following an Act of the Parliament of Scotland in 1643.[1] The purpose of the Act was to facilitate the raising of a land tax (commonly called cess) based on the valued rent of each landholding. This 'valued rent' was, in practice, the real rent of the holdings as assessed by local commissioners appointed for the purpose. It comprised 'the nett rent that the landowner was entitled to receive under deduction of all the permanent burdens then existing'.[2] Included was 'every species of real property'; this encompassed fishings, teinds and feu duties as well as the agricultural produce. The 1643 Act stated that this property had '... to be converted into money ... according as in every parish the pryces of several spaces [species] of victual and commodities shall rule for the tyme ...'. The assessment furnished, therefore, a statement of the contemporary value of the whole produce of each landholding according to local market prices.[3] This 'valued rent' was frozen and used as the basis on which each landowner paid his or her share of the total tax levied upon the county.[4] Over time this fixed value became divorced from the real value and the actual rent paid by tenants. The relative and comparative valued rent of the land and property was maintained and remained constant, even though the boundaries, the size and the market value of estates might change as ground was bought and sold and possessions merged or divided.[5]

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[1] *The Acts of the Parliaments of Scotland, Vol. VI, pt 1, 1643-1647* (1870): 1643, VI i, 31.
[2] S. B. Armour-Hannay, *Valuation for Rating* (Edinburgh, 1912), xlix.
[3] When the sale of an estate was being negotiated, the value of land was based on a multiple of the real rent, less any permanent burdens such as stipends, teinds and other legal obligations. NAS GD/5/248, Rental of the Barony of Inchleslie (1650).
[4] Although introduced under the Covenanting regime, the tax and the manner in which it was administered were retained after the Restoration and remained in place until the nineteenth century.
[5] The *OSA* contains numerous references to, and comparisons of, both the 'valued' and 'real' rent of parishes. See for instance the account of Longforgan (1795): *OSA* XI, 313.

It is generally not possible to calculate a value per acre for individual landholdings in the seventeenth century as the size of estates was rarely, if ever, recorded in terms of a precisely measured area. However, it is possible to ascertain an average valued rent per acre of individual parishes. Valuation rolls from the seventeenth century, normally listed by parish, are to be found in the Exchequer Records in the National Archives of Scotland and among local authority records, though by no means all are complete.[6] Lists, by parish, of the valued rent of all landholdings in Perthshire, *c.* 1650, have survived.[7] A further list dating from 1667 is extant and, from 1696, lists were compiled on a regular basis.[8]

It should be noted that there are some differences in the total valued rent recorded for the parishes of Kinfauns and Kinnaird between the 1650 list and that of 1667 and, to a much lesser extent, between 1667 and 1696. The differences stemmed, for the most part, from the manner in which teinds and feu duties were recorded and where a non-resident feudal superior had sold or feued land in a parish. A particular instance (and where the most significant disparity is recorded) is that of Kinnaird parish where, in 1650, the proprietor and feudal superior of the Barony of Kinnaird was Viscount Newburgh.[9] The whole of Newburgh's lands in the parish were subsequently wadset and later feued. In 1650, the total valued rent for the barony is recorded as £2,550. In 1667, five different proprietors whose total valued rent was recorded as £1,951 held these lands; in addition to this the valued rent of the feus and teinds received by Viscount Newburgh was given as £262. By 1696, the whole of the estate of Kinnaird was in the hands of Sir Patrick Threipland; the total valued rent was recorded as £2,215 and apparently incorporated the value of any feus and teinds. Throughout this period, the remainder of the parish was part of the Inchleslie estate and in the hands of the family of the Earl of Leven. The valued rent of the Inchleslie lands remained constant at £929. The changes were therefore restricted to the manner in which feu and teind values were recorded and did not affect the valued rent of the landholdings themselves. From 1696, there were no significant changes in the total valued rent given for any of the Carse of Gowrie parishes in the cess records for Perthshire.

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[6] NAS, E106.
[7] Gloag, *The Rental Book of Perthshyre.*
[8] PKAC, CC1, *Cess Books for the County of Perth.*
[9] The difference in the totals for Kinfauns parish between *c.*1650 and 1667 was under 5%. The total for 1696 was the same as 1667.

There was not always agreement, however, with the valuation put on land by the commissioners. Patrick, Earl of Strathmore, when complaining of the amount of tax payable on his Castle Lyon estate at Longforgan, wrote that the original assessment for valued rent was above the real rent warranted by the quality of his land and in comparison to that levied on other estates in the area, which had been undervalued.[10]

It is possible nevertheless, by dividing the total valued rent for each parish by its area, to come to an approximation of the contemporary value placed on land *c.*1650 and its relative value thereafter. This will by no means be a representative figure for every holding in that parish, as many Lowland Scottish parishes embraced areas of ground that varied considerably in their productive potential, but it does serve as a ready, albeit rough, guide and a means by which one area of the country might usefully be compared with another in terms of their overall value and productivity. The valued rents of the parishes of the Carse of Gowrie are given in Table 2.2 below.

Table 2.2: Valued Rent of Carse of Gowrie Parishes

Source: PKAC, *Cess Books for the County of Perth* (1696)

Parish	Valued Rent (£Scots)	Total Area (Less Foreshore)		Valued Rent Per:	
		Statute Acres	Hectares	Statute Acre (£Scots)	Hectare (£Scots)
Abernyte	£1,127	2,534	1,026	8s 10d	£1 2s 0d
Errol	£16,970	9,543	3,865	£1 15s 7d	£4 8s 0d
Inchture	£7,121	4,130	1,673	£1 14s 5d	£4 5s 2d
Kilspindie	£6,392	6,258	2,534	£1 0s 5d	£2 10s 5d
Kinfauns	£5,937	3,886	1,574	£1 10s 7d	£3 15s 5d
Kinnaird	£3,144	3,500	1,417	18s 0d	£2 4s 5d
Kinnoull*	£4,884	3,333	1,350	£1 9s 5d	£3 12s 5d
Longforgan	£7,250	8,557	3,466	17s 0d	£2 1s 10d
St Madoes	£1,269	1,563	633	16s 2d	£2 0s 0d
Totals:	**£54,094**	**43,304**	**17,538**		
Average:				**£1 5s 0d**	**£3 1s 7d**

*The areas and values given for Kinnoull parish include land lying outside the Carse of Gowrie.

[10] Millar, *Glamis Book of Record*, 17.

It can be seen that there were considerable differences in land values between some of the parishes. The average valued rent of land in Errol for instance, a low ground parish with a substantial proportion of land classified '2', was four times that of Abernyte, a parish situated entirely on the braes.[11] In his study of the population of Aberdeenshire,[12] R. E. Tyson used a calculation similar to that above to differentiate between Highland and Lowland parishes. He classified Lowland parishes as those with fewer than ten acres per £ valued rent.[13] The brae parish of Abernyte, by far the 'poorest' in the Carse of Gowrie, with an equivalent value of 2.27 acres per £Scots valued rent, falls very comfortably into Tyson's definition of Lowland suggesting that as a whole, the product value of Carse of Gowrie land was a great deal higher, on average, than that of the Lowland area of Aberdeenshire.

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[11] Figure 2.5: 'Land Capability for Agriculture'.
[12] R. E. Tyson, 'The Population of Aberdeenshire, 1695-1755: A New Approach', in *Northern Scotland*, VI (1985), 113-31.
[13] *Ibid.*, 120-1.

2.6 Population

In a pre-industrial economy, the size of the population that is supported is a primary indicator of the productivity of an area. Significant shifts in population numbers and distribution signify that major underlying change is taking place and also the possible nature of that change. In this chapter an estimate will be made of the population of the Carse of Gowrie in the last decade of the seventeenth century.

Firm evidence on which to base assessments of population levels for this period is lacking. The first official census in Scotland was not conducted until 1801 and civil registration was not introduced until 1855. The earliest comprehensive survey of Scotland's population was that carried out by parish ministers at the behest of the Reverend Alexander Webster in 1755.[1] The population of each parish was again recorded in the 1790s for inclusion in the *OSA.*[2] To arrive at a population figure for the seventeenth century it is necessary to rely on records and information whose primary purpose was not that of a census. The most commonly available sources that can provide useable information are Old Parochial Registers, the 1691 hearth tax returns and poll tax data from the 1690s. Not all of these sources have survived in all areas and the quality and reliability of those that are extant varies considerably. Their potential and their failings for demographic purposes are discussed in some detail in *Scottish Population History.*[3] M. W. Flinn's comment that 'we cannot even be sure that the population of Scotland was less, say, in 1690 than it was in 1755' is a response to the limitations of the data and the challenge it poses to demographic historians.[4]

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[1] Webster's findings are reproduced in J.G. Kyd, *Scottish Population Statistics* (Scottish Historical Society, 1952).

[2] Sir John Sinclair (ed.), *The Statistical Account of Scotland,* 21 volumes (Edinburgh, 1791-97): revised in a regional arrangement with introductions in 20 volumes, D. J. Withrington and I. R. Grant (eds.), *The Statistical Account of Scotland* (Wakefield, 1973-84); afterwards: *OSA.*

[3] M. W. Flinn (ed.), *Scottish Population History from the Seventeenth Century to the 1930s* (Cambridge, 1977).

[4] *Ibid,* 4. One of the most detailed studies carried out in order to establish the population of a district of Scotland in the late seventeenth century, is that by R. E. Tyson, for

For the Carse of Gowrie, the 1691 hearth tax returns for South Perthshire are extant, as are a number of parish registers and the cess roll valuations for Perthshire.[5] Poll tax data appears to be limited to a single list of pollable persons on one small estate and a receipt for the poll money collected in the parish of Errol; both pertain to the 1695 poll tax.[6] Records surviving in estate muniments, such as rentals, have provided additional information. Since by far the largest amount of evidence that is extant concerns the first half of the 1690s, it is for this period (*c.*1691) that a calculation of the population of the district has been made.

The records contained in the Old Parochial Registers vary in their comprehensiveness both from parish to parish and through time. Baptisms appear to have been recorded with reasonable regularity. The registers of five of the eight Carse of Gowrie parishes have records of baptisms that run for ten or more consecutive years in the period between 1680 and 1700.[7] The recording of marriages was much less systematic; while the recording of burials was so infrequent as to be almost unusual. Very often, only a sum total of the money received in the year for the use of the mortcloth was noted.[8] The individual amounts paid for its use tended to correspond to the means of the family of the deceased. The income received from the burials of several of the poor would not amount to one burial from a relatively wealthy family and the amount recorded, therefore, did not correlate uniformly to the number of burials.[9]

The three adjoining parishes of Kinnaird, Abernyte and Inchture serve to illustrate the range of surviving records provided by the parish registers. Kinnaird has an apparently full record of baptisms and marriages for the years 1680-1700, but there is no record of burials. No parish registers for Inchture have survived at all for this period, if indeed any were kept.[10] Registers for Abernyte are extant but contain

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Aberdeenshire. The problems confronted and the ways in which available material can be used to good effect are described in: Tyson, 'Population of Aberdeenshire', 113-31.

[5] Mitchell, *Monumental Inscriptions*; PKAC, CC1, *Cess Books for the County of Perth.*

[6] NAS, GD316/10; SAUL, MS36220/1124 Hay of Leyes.

[7] Kinnoull has been omitted from this study of population as substantial parts of that parish are outside the district and no meaningful figures for those sections within the Carse of Gowrie can be extracted.

[8] Mortcloth: a pall hired out to cover the coffin on the way to the grave or, where no coffin could be afforded, the body. Some parishes had mortcloths of different qualities that were used according to the social status or means of the deceased.

[9] St Madoes *OPR* (392), *1695 and 1696.*

[10] The parish was served, prior to 1710, by an Episcopalian minister. *OSA,* Vol. XI, 248.

gaps of several years; marriages and burials are recorded only in relation to fees paid. In the seven years between 1695 and 1701, a period that encompassed a series of disastrous harvests, a total of eleven burials are recorded at Abernyte. The burial of only one child is included in this number, that of the infant son of the minister.

The largest and most detailed source of information on the population of the Carse of Gowrie during this period is the returns for the 1691 Hearth Tax. It is data from this source that has been used as the basis for a calculation of the population. Evidence from other sources, particularly the Old Parochial Registers and the cess rolls, has been used to supplement the figures. The extant poll tax data provides an interesting profile of a small estate but its statistical significance is limited.

The hearth tax was levied in large part (like the poll taxes for 1693, 1695 and 1698) to pay for the armed forces in Scotland. All possessors of hearths (that is the occupier, not the proprietor) unless living on charity, were required to pay fourteen shillings Scots for each of his, or her, hearths. The term 'hearths' included the fires of all kilns, ovens, smiddie furnaces and washhouses, as well as those used for domestic purposes. The hearths of 'waste' or 'void' houses were to be paid by the proprietor.

It was the responsibility of the heritors of the parish to list the hearths and their possessors; the appointed sub-collector for the shire or presbytery was required to carry out a survey to check the heritors' list. The method of listing and the amount of detail included varies from one area of Scotland to another; the returns for Linlithgow, for example, contain a great deal of information whereas in Aberdeenshire, no individual names of possessors are included.[11] In the returns for the Carse of Gowrie, the names of the possessors of the paid hearths are, for the most part, given. Names are listed under their parish and estate, in groups of three or four, with the number of hearths paid by each of these groups given as a total. A small number of estates submitted only a total number of hearths, with no listing of the individual possessors. The poor are listed separately in some parishes, but not in others.

The possessor of the hearth can normally be taken to be the householder. The hearth tax returns for the Carse of Gowrie list 1,313 named householders possessing a total of 2,015 hearths. Studies carried out by D. M. Adamson and R. E. Tyson on other areas of Scotland have revealed substantial under-declaration in the number of paid hearths.[12] Adamson suggests that in most rural Lowland areas an assessment of the population can be reached by multiplying the number of paying households by seven or the number of paid hearths by five.[13] These formulae would estimate the population of the Carse of Gowrie at 9,191 (householders multiplied by seven) or 10,075 (hearths multiplied by five). In the light of Dr Webster's survey of 1755 - which found the total population of the eight parishes to be 6,878 - both of these figures would seem to be much too high.

In multiplying the number of hearths returned for Aberdeenshire by five, R. E. Tyson obtained a figure some 3.7% below his final calculation of the population there.[14] The difference in the outcomes between West Lothian, Aberdeenshire and the Carse of Gowrie illustrates the dangers inherent in the application of broad rules to specific areas. The exercise might indicate too that the incidence of under-declaration of hearths in the Carse of Gowrie was on a much smaller scale than in some other areas of Scotland. This proposition is supported by other evidence. The names of estates recorded in the hearth tax returns were checked against those listed in the cess rolls for 1696, but no significant omissions were found. [15] The cess rolls also provide a rough indication of the proportion of hearths and possessors that a particular estate might be expected to have. For instance, if the valued rent of an estate amounted to 20% of the total for the parish, it might reasonably be expected to return in the region of 20% of the total number of hearths.

While it is impossible to ascertain from the data the number of hearths that might be under-declared, it is evident that a substantial number of householders are not individually listed, their hearths being included under the name of the estate or

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[11] Flinn, *Scottish Population,* 54; Tyson, 'Population of Aberdeenshire', 115.
[12] D. M. Adamson (ed.), *West Lothian hearth tax, 1691* (Scottish Record Society, 1981), 1-5; Tyson, 'Population of Aberdeenshire', 120.
[13] This is based on the assumption that between 60% and 70% of households paid the tax and household size was 4.1. Adamson, *West Lothian hearth tax*, 1-5.
[14] Tyson, 'Population of Aberdeenshire', 125.
[15] PKAC, CC1, *Cess Books for the County of Perth.*

heritor. A close study of the returns suggests that there were well in excess of 100 households more than are listed by name. It was common practice for lairds to pay for the hearths of their servants and deduct the amount of the hearth tax from wages. Several examples are apparent and include the Earl of Strathmore who declared thirty-six hearths 'in the house of Castle Lyon'. By the 1690s, Castle Lyon had been made into a very substantial house by the Earl and, together with its offices, may well have contained such a number or hearths. However, the estate compt book for that year shows that 14s 0d each for hearth tax was deducted from the wages paid to thirteen servants, none of whom were named in the returns.[16] Their hearths may have been included in those declared for the house of Castle Lyon. Further, only fifty-three of the fifty-seven tenants included in the 1691 Castle Lyon accounts are listed individually in the hearth tax returns.

On a number of Carse of Gowrie estates, the hearths of cottars and sub-tenants were also included in the declaration of the larger tenants. This is particularly evident in the Kinnaird parish returns for the Inchmartine estate, where only twenty-seven householders are listed against a return of seventy-eight paid hearths. In his history of Pitmiddle village, D. R. Perry estimated the number of families living on the Inchmartine estate in Kinnaird parish at that time to be in the region of seventy,[17] a figure much more in keeping with the number of hearths returned. The estate of Ardgaith, in the parish of Errol, made a single return of thirty-six hearths listing no individual possessors. These and other examples indicate that the actual number of households in the district was probably nearer 1,440, some 10% higher than the number of named possessors listed.

A calculation based on the number of declared hearths further supports this figure. The county of Perth, in common with other rural lowland areas of Scotland away from the Forth, is reckoned to have averaged 1.4 hearths per household.[18] The Carse of Gowrie was a relatively prosperous district but without the mineral wealth or the scale of industry and trade that existed in the environs of the Forth where the average number of hearths per household was 1.5. Only the very largest houses

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[16] NRA(S) 885, 190/1/23. Deductions for taxes paid were also made to servants' wages on the Kinnaird estate, PKAC, MS100/1084.
[17] David R. Perry, 'Pitmiddle Village', in Perthshire Society of Natural Science, *Pitmiddle Village and Elcho Nunnery* (Perth, 1988), 27.
[18] Flinn, *Scottish Population History*, 198-9.

had great numbers of hearths. The vast majority of rural houses could boast only one fireplace.[19] Megginch Castle - depicted on Adair's map of 1683 as perhaps the greatest house in the district - declared eleven hearths plus a further four furnaces and kilns; the Laird of Pitfour, proprietor of the whole of the parish of St Madoes declared only two hearths in his own house.[20] The largest tenant farmer in Longforgan, with land measuring two ploughs (approximately 106 hectares) declared only two hearths and, as he was also a brewer, only one of these would have been a domestic hearth.[21] The number of hearths declared for the Carse of Gowrie (2,015), divided by the average number of hearths per household (1.4), gives a figure of 1,439 households for the district.

The population can be calculated by multiplying the number of households by the average size of household. Although no data is available with regard to household size in the Carse of Gowrie in the seventeenth or the first half of the eighteenth century, the *OSA* does give the size of household for seven out of the eight Carse of Gowrie parishes in the 1790s. (The exception is Errol.) Studies indicate that household size remained relatively unchanged during the eighteenth century[22] and in the absence of any more contemporaneous information, the *OSA* figures have been used. The average household size for the Carse of Gowrie according to the *OSA* was five. St Madoes had the highest figure at 5.6 and Kinnaird the lowest at 4.5.[23] (Brae parishes in the Carse of Gowrie had a consistently lower household size than the low-ground parishes.) Multiplying the revised number of households (1,437) by the average household size for the district (five) gives a population of *c.*7,185. This is much nearer, though still greater, than Webster's figure.

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[19] *Ibid.,* 195.
[20] Adair, *The mappe of Straithern, Stormont and Cars of Gourie.* Figure 2.6.
[21] NRA(S) 885, 190/1/23.
[22] R. E. Tyson, 'Contrasting regimes: population growth in Ireland and Scotland during the eighteenth century', in Connolly, Houston and Morris (eds.), *Conflict, Identity and Economic Development* (Cambridge, 1995), 66.
[23] From the *OSA*, Tyson calculates the mean household size for Scotland to be 4.5. Only the northern counties of Caithness, Sutherland and Shetland had a household size greater than 5.0. Tyson, 'Contrasting regimes', 65-6.

Table 2.3: The Carse Gowrie, by parish, c.1691: area, valued rent, hearths, households and estimated population

Parish	Statute Acreage (Hects.)	Valued Rent 1696 (£Scots)	Valued Rent per Acre (Hect.) (£Scots)	No. of Hearths Declared for Parish	No. of Hearths per 1000 Acres	Households		House-hold Size (*OSA*)	Pop. per Square Mile *c.*1691	Estimated Population *c.*1691	Change *c.*1691 to 1755	Population		
						Named	Adjusted Figure					1755	*OSA*	1801
Abernyte	2,534 (1,026)	£1,127	8s 10d (£1 2s 0d)	83	33	54	61	4.7	72	287	- 10%	258	345	271
Errol	9,543 (3,865)	£16,970	£1 15s 7d (£4 8s 0d)	641	67	353	409	5.0*	137	2,045	+ 9%	2,229	2,685	2,653
Inchture	4,130 (1,673)	£7,121	£1 14s 5d (£4 5s 2d)	325	79	245	245	5.4	205	1,323	- 33%	893	1,000	949
Kilspindie	6,258 (2,534)	£6,392	£1 0s 5d (£2 10s 5d)	240	38	185	185	4.8	91	888	- 7%	828	718	762
Kinfauns	3,886 (1,574)	£5,937	£1 10s 7d (£3 15s 5d)	167	43	123	135	4.7	105	635	+ 0.6%	639	628	646
Kinnaird	3500 (1,417)	£3,144	18s 0d (£2 4s 5d)	177	51	98	127	4.5	105	572	- 3%	557	404	455
Longforgan	8,557 (3,466)	£7,250	17s 0d (£2 1s 10d)	326	38	222	242	5.0	91	1,210	+ 6%	1,285	1,526	1,569
St Madoes	1,563 (633)	£1,269	16s 2d (£2 0s 0d)	56	36	33	33	5.6	76	185	+ 2%	189	300	295
Total	39,971 (16,188)	£49,210		2,015		1,313	1,437		114	7,145		6,878	7,606	7,600
Average			£1 5s 0d (£3 1s 7d)		50			5.0			- 4%			

* Estimated

Table 2.3 sets out the acreage, valued rental and a summary of the hearth tax data for the parishes of the Carse of Gowrie. Also included is the average household size for each parish according to the *OSA.* Two figures for the number of households are given - the number of named possessors as listed in the returns and an adjusted figure for those parishes where evidence indicates the existence of a larger number of households. The estimated population *c.*1691 together with comparative figures for the eighteenth century and the 1801 census are also included.

The number of persons per square mile in each of the parishes and for the district as a whole, *c.*1691, is also given in the table. Working from Webster's census, I. D. Whyte calculates that a population density of 50-60 persons per square mile was normal for the Lowlands in 1755. He suggests that where the density was greater than this, factors such as the existence of large towns, a disproportionate number of smaller burghs, and a concentration of economic activity on trade and industry were important influences.[24] The average for the Carse of Gowrie in *c.*1691 and 1755 was 114 and 110 respectively and is a mark of the high level of economic activity that was carried on in the area.

Table 2.3 reveals a fall in population in four of the eight parishes between 1691 and 1755. In the parish of Inchture this drop represents almost a third of the population. It is a considerable exaggeration of the trend shown in the other parishes and prompts the need for a closer examination of the figures. The hearth tax returns for Inchture impress as being a particularly full declaration and no adjustment has been made to the number of householders listed. It is extremely unlikely that occupiers and heritors would wish to pay more tax than necessary and declare more hearths or possessors than existed. It is possible that the average household size for Inchture of 5.4, given by the *OSA* in 1791, was higher than in 1691 but, to fall in line with Webster's figure, the household size would have needed to average no more than 3.6 – lower than the mean for any Scottish county.[25]

That Inchture in 1691 was both a populous area and made a comprehensive tax return is confirmed by the high number of hearths for the size of the parish. At

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[24] Whyte, *Scotland before the Industrial Revolution*, 114.
[25] Tyson, 'Contrasting regimes', 65-6.

seventy-nine hearths per 1,000 acres, the concentration is the highest in the Carse of Gowrie and among the most developed rural areas in Lowland Scotland.[26] Flinn suggests that where good land was the sole determinant of population thirty paid hearths per 1,000 acres was the maximum that could be expected and the prosperity implied by higher numbers of hearths would require the support of some manufactures or overseas trade.[27] Certainly, the land of Inchture parish is generally very fertile[28] and the valued rent of £4.26 per hectare, the second highest of the district, confirms the comparative and potential wealth of the parish. There existed at least five substantial settlements - Inchture village, Balledgarno, Ballindean, Rossie village and at the port of Polgavie – and also a good number of smaller ones. There is also evidence that by the 1690s, linen manufacture was very well established in the area.[29] The largest landowners in Inchture, the Kinnairds, showed themselves to be commercially progressive throughout the seventeenth century, expanding their estate and extending their influence.[30]

Without more and reliable data, it is impossible to verify the estimate, based on the hearth tax returns, of the population of the parish of Inchture. The evidence suggests however, that in 1691 there existed sufficient agricultural and commercial resources in the parish of Inchture to support a population in excess of 1,300. If it is considered that the figures for Inchture do stand, the inference must also be drawn that the estimates of population found for the other Carse of Gowrie parishes are conservative.

The calculation of the estimated population for the Carse of Gowrie is based on the actual hearths declared in the Hearth Tax returns, it does not incorporate under-declaration on the scale found by both Adamson and Tyson. While evidence shows Inchture to be a relatively prosperous parish, the ratio of hearths to households, according to the numbers declared in the hearth tax returns, is only 1.3. This is below the average of 1.4 that has been suggested for the Carse of Gowrie. If the ratio of 1.3 found in Inchture were applied to the number of hearths declared for

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[26] Flinn, *Scottish Population History*, 188.
[27] *Ibid.*, 188-90.
[28] See Figure 2:5, above.
[29] See Chapter 4.6, below.
[30] See Chapter 4.5, below.

the district as a whole (2,015), the number of households would total 1,550, giving a calculated population of 7,750 – some 13% higher than Webster's figure.

In the absence of poll tax data, the only other accessible source of information on the population are the parish registers. These, as discussed earlier, are seriously diminished as a tool for assessing population levels in the Carse of Gowrie during this period due to their incomplete recording of marriages and deaths. The useable data they do contain, however, indicates the potential for a much higher population than that derived from the hearth tax. As already stated, no parish registers are extant for Inchture for the 1690s, but in five of the eight parishes there was systematic recording of baptisms for periods of ten consecutive years between 1680 and 1700. Stillbirths and infants who died before they could be baptised were not included in baptismal registers. Children whose fathers failed to pay the small fee might also be excluded. Increasing the number of baptisms by five% can compensate for this under-registration.[31] It must be emphasised however, that birth rate on its own can give only a very broad indication of the size of a population. Crude birth rate is rather a measure of fertility and its accuracy is dependent on the proportion of women in a population and their age range being known – evidence that is unavailable for the Carse of Gowrie at this time.

A further problem that distorts the record of births on a parish basis is that it was quite common for infants to be baptised in a neighbouring parish. This may have been due to the indisposition or absence of ministers in some parishes at this time, or for reasons of proximity. The church at Abernyte for instance, was closer to and generally used by those living in the northern arm of Longforgan parish, a factor of considerable importance at a time when it was the practice to baptise infants in the first few days of life.

Almost all the registers include baptisms of infants from neighbouring parishes. Longforgan also registered the baptisms of some infants born of Longforgan parents but baptised in other parishes; these may well have been recorded in each parish. The most systematic recording of baptisms during this period are to be found in the Kinnaird registers. Four hundred and eighty baptisms were registered there for the years 1680-1699; of these, thirty were of infants from settlements outside the

parish, the majority being from the neighbouring parish of Kilspindie and recorded in the years 1693 to 1697.

Where the number of births is known, a rough estimate of the population can be obtained by using the 'Cox formula'. This proposes a crude birth rate of 33.3 per thousand and requires the average number of births in a ten-year period to be multiplied by thirty.[32] For Aberdeenshire, Tyson was able to calculate a crude birth rate of 29.0 per thousand of the population - a multiplier of 34.5 - between the years 1691 and 1695. (For England during the same period the crude birth rate was 30.8.)[33] When these formulae are applied to the numbers of births recorded in five Carse of Gowrie parishes, populations considerably higher than those indicated by the hearth tax are, for the most part, obtained.

The information contained in the baptismal registers is too limited to be considered an accurate source for the calculation of population in the Carse of Gowrie. The figures suggest, however, that the crude birth rate in the district was substantially higher than that found for Aberdeenshire in the same period. They also support the notion that the population levels derived from the hearth tax returns are more likely to be an under-estimate than an over-estimate.

Table 2.4: Births*, birth rates and estimated populations in five Carse of Gowrie parishes c.1691.

Parish	Average Annual No. of Births* *c.*1691	Estimate of Population based on Crude Birth Rate of 33.3 per thousand.	Estimate of Population based on Crude Birth Rate of 29 per thousand	Estimate of Population based on Hearth Tax Returns	Crude Birth Rate based on Estimated Population per Hearth Tax
Errol	68	2040	2346	2080	32.8
Kinfauns	29	870	1000	588	49
Kinnaird	24	720	828	572	42
Longforgan	44	1320	1518	1230	35.7
St Madoes	15	450	517	185	83

* Average number of baptisms over ten years plus a 5% allowance for under-registration. Baptisms of the infants of parents living outside the parish have been excluded.

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[31] Tyson, 'Population of Aberdeenshire', 126.
[32] *Ibid.*, 114.
[33] *Ibid.*, 126.

A further factor for consideration is that a high crude birth rate encompassed the potential for significant fluctuations in population levels. The Reverend James Adamson in his contribution to the *OSA* for Abernyte draws attention to this and discusses at some length the instability and short-term fluctuations in population numbers there during the eighteenth century.[34] He calculates the population at the beginning of the eighteenth century to have been 330.6; this he bases on the average of 11.5 births per annum,[35] in the proportion of one birth per 28.75 of the population.

While no certain figure for the population of the Carse of Gowrie in the early 1690s can be obtained from the data extant, a conservative estimate does suggest that it was significantly larger than that found by Webster in 1755. R. E. Tyson in his study of demographic sources for Aberdeenshire concludes that the population there in 1695 was actually 7.7% higher than in 1755.[36] Tyson suggests that the root cause of the sharp decline and subsequent slow recovery of the population in Aberdeenshire's rural parishes was the devastating famine at the end of the seventeenth century, commonly called 'King William's ill years', or 'the seven ill years'. This raises the question as to what extent the famine affected the Carse of Gowrie and whether it was responsible for the fall in population. The manner in which the district was able to withstand, or otherwise, the depredations of the 1690s also has much to say about available resources and the effectiveness of the various local authorities – kirk sessions, heritors and county commissioners - that were in place. Some aspects of the impact on the district made by the famine years of the 1690s are discussed in Chapters 2.7 and 2.8 below.

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[34] *OSA,* Vol. XI, 17-20.
[35] The Reverend Adamson does not give the years on which he bases his average. The surviving register is incomplete, but baptismal entries from 1705 support this figure.
[36] Tyson, 'Population of Aberdeenshire', 113-31.

2.7 'The Seven Ill Years'

The discussion that follows does not purport to be a detailed study of the 'famine years' of the 1690s as they affected the Carse of Gowrie, but is an attempt to assess the extent of the impact they had on the level of the indigenous population.

The information about the impact of the 'famine years' that can be gleaned from the extant *OPR*s and kirk session records is limited and that in estate papers presents a very partial view, being concerned primarily with rent arrears. However, from what is available, a distinct pattern is discernible. One feature that is clear is that even in a relatively small and compact district such as the Carse of Gowrie, the effects and impact of the famine varied from one parish to another, sometimes quite considerably. As might be expected, the large low-ground parishes with substantial areas of fertile and sheltered land had the resources to withstand the worst effects of the famine a great deal better than did smaller parishes. An example is the contrast in the way in which Longforgan and St Madoes were able to cope with the numerous destitute souls from the north that travelled through (particularly) the low-ground parishes.[1] The kirk records show these vagrants to have been one of the district's most severe problems.

Harrowing reports in the *OPR* of St Madoes from 1697 tell of extreme hardship and insufficient funds to meet the needs of their own poor, let alone the expense of burning the bodies of the 'travelling stranger poor severalls whereof dyed among us'.[2] At Longforgan, the kirk session also recorded the alms and assistance dispensed to the

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[1] The *OPR* for Kilspindie, the parish through which the main route across the braes between Dundee and Perth went, also mentions handouts to travelling beggars, but to a much lesser degree than that intimated by Longforgan and St Madoes. A similar pattern of vagrants concentrating on the richer low-ground parishes, was found by K. J. Cullen in her study of Angus. K. J. Cullen, 'King William's Ill Years: the Economic, Demographic and Social Effects of the 1695-1700 Dearth in the county of Angus' (unpublished MA Dissertation, University of Dundee, 2001), 38.

'multitude of beggars at the door'.[3] It is apparent, however, that Longforgan was able to cope with the crisis much better than St Madoes.

Although the long northern arm of Longforgan parish was made up of brae ground, which effectively reduced the overall valued rent per acre of the parish to only a little above that of St Madoes, Longforgan was a great deal bigger and had many more resources on which to draw. It boasted a substantial village, a thriving market centre and a large low-ground acreage of fertile and sheltered land that was divided between four principal, efficiently run and well-farmed estates – Castle Lyon, Drimmie, Monorgan and Mylnfield. In contrast St Madoes was tiny, less than a fifth of the size, with a sixth of the population and a fraction of the means.[4] One estate (Pitfour) encompassed the whole parish; the total valued rent of this amounted to only one third of that of Castle Lyon. As noted above, the principal residence of the Laird of Pitfour could only furnish two domestic hearths compared to the thirty-six declared for the house of Castle Lyon.[5] The number and resources of the estates within a parish was a critical factor as, to cope with the want and the dearth, the lairds, with their tenants, were expected by the County Commissioners 'to see to the maintenance and provision of the poor within their bounds'.[6]

In 1698, the *OPR* for St Madoes listed only three baptisms against an average per annum of fifteen at the beginning of the decade. (After confessing to an empty poor box, no further entries were made in the register throughout the remainder of the famine.) At Longforgan, the average number baptisms for the years 1695-1700 (inclusive) was forty-two, which was less than 5% below the average *c.*1691.[7] It was only in April 1699 that resources became so straitened that the session no longer felt able to afford the expense of individual funerals and coffins for the numbers of 'stranger beggars ... as dye among us'. Orders were given for the making of a strong communal coffin that could be re-used, 'the mortality being so great'. At that time the

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[2] St Madoes *OPR*, 1697.
[3] DCRAC, CH2/249/2, Longforgan Kirk Session Record (1698).
[4] See Table 2.3.
[5] Mitchell, *Monumental Inscriptions,* 385.
[6] DCRAC, CH2/249/2.
[7] Longforgan *OPR* (377) and Table 2.4.

kirk session was making regular payments to the beadle for carrying out in the region of two to three burials each week; in one extreme instance in March 1699, a payment was made in respect of fifteen burials.[8]

The degree of geographic advantage was a second major factor in how deeply the effects of the 'ill years' were felt. This was demonstrated in the contrasting experiences of the Castle Lyon and Auchterhouse estates, both of which belonged to the Earl of Strathmore and also in the case of the tenants on the lands of the Earl of Kinnoull in Rhynd and Kinnoull parishes. The Castle Lyon estate was comprised productive, relatively sheltered, south-facing ground, situated for the most part between ten and fifty metres above sea level. While the records for the estate reveal stark statistics of poor yields and failed harvests,[9] there was some crop harvested successfully and the high prices that were received for grain during the famine period enabled the majority of the tenants there who were in arrears, to pay off their 'rests'.[10] In contrast, in the same year on the Auchterhouse estate, lying approximately five miles to the north at an altitude in general 100 metres higher than Castle Lyon and more open to the east, the factor was instructed to begin the process for the removal of tenants who were unable to pay their rent. He was also told, however, to be on the lookout for likely replacements, which suggests that there were still some among the tenant classes in the area, possibly on estates such as Castle Lyon, with sufficient resources to take on substantial farms.[11]

The records of the factor for the Earl of Kinnoull reveal a similar contrast in circumstances. Situated on opposite banks of the Tay to the southeast of Perth – and within a mile distance of each other - the tenants farming the north-facing lands of Rhynd experienced a very different fate to those farming the south-facing lands of Kinnoull. Lists of the tenants in arrears in both parishes were drawn up *c.*1697.[12] By 1698, the tenants in Rhynd were bankrupt and in 1699 their land was being farmed by the factor. In contrast, the tenants in Kinnoull parish, which had shelter from severe

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[8] DCRAC, CH2/249/2.
[9] NRA(S) 885, 67/6 (1699).
[10] NRA(S) 885, 54/1/8 (1698).
[11] NRA(S) 885, 67/6 (1699).

weather from the north and the full benefit of what little sun there might have been, were not bankrupted and are recorded as still farming their lands well into the first decade of the eighteenth century.[13]

Even in the brae parishes of the Carse of Gowrie, there is little evidence for the eviction of tenants. By 1698 there was sufficient cause for a fenced court to be held in front of Sir David Threapland to determine the extent of tenant arrears on his adjoining Fingask and Kinnaird estates, but a comparison of the table rentals show that, in 1716, approximately half of the lands were in the possession of the same families as had been farming there in 1696.[14] This proportion is in line with the continuity of tenancy generally found in the Carse of Gowrie throughout the second half of the seventeenth century.[15]

It is undisputed that there was crop failure and real dearth in the Carse of Gowrie, with serious want amongst many of those below tenant class. At Kinnaird, baptisms for the five years 1695-1699 were 20% below those recorded for the years 1690-1694. Over the same period, however, there was no apparent fall in the number of baptisms in the large and wealthy parish of Errol. In the *OPR* for Kilspindie - though the details it gives are few - there is a sense of a real increase in the needs of the poorest and that resources were stretched. The St Madoes account indicates that disease was rife amongst the 'stranger poor' travelling through the parish. The preferred practice of burning the bodies there reveals the fear of the effects of such disease being passed to a weakened local population.

The kirk session records for Longforgan suggest some increase in mortality among the old and the very young of the parish. It is to be expected that the cold and wet weather that brought about the reduction in crop yield would also bring an increase in the severity of respiratory diseases, such as bronchitis and pneumonia, and claim the lives of the vulnerable. A reduction in the charges for the use of even the velvet

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[12] DCRAC, GD130 North Esk muniments (uncatalogued).
[13] PKAC, B59, 38/1/3 (Burgh Records).
[14] PKAC, MS169/14/2/8.
[15] See Chapter 3.6, below.

mortcloth from 1696 reflects the restricted circumstances of all classes of society. Heritors were instructed to aid their own poor by employing those among them who were capable to expel the 'vagabond beggars'. It would seem that although some of the most vulnerable came near to death through starvation, such extreme instances were rare and that support was available and given. Of the half a dozen or so named poor receiving regular handouts from the parish in 1695, almost all were still alive in 1699.[16] There is no evidence that conditions across the Carse of Gowrie as a whole were extreme enough to force members of the resident population to join on the road the poor souls from the north.

The fertile and climatically sheltered Carse of Gowrie, lying within easy proximity of ports and trade routes, would not be expected to suffer the levels of starvation and mortality encountered in the upland areas of Aberdeenshire.[17] But, even in this favoured district the period of poor and failed harvests was probably unprecedented. Records of grain production from Castle Lyon and of orchard fruit from across the Carse of Gowrie indicate that there was a significant worsening in the weather and consequently falls in crop yields that had begun as early as 1692.[18] Severe failure may not have been evident until 1695, but it had roots established in the deteriorating returns of the previous three years. When recovery came, it seems to have been rapid, but in the Carse of Gowrie this was not until the harvest of 1700. (The fiars price set for oatmeal in Perth dropped from its high of £9 per boll in the harvest years of 1698 and 1699 to £5 in 1700 and £4 in 1701.[19]) The 'seven ill years' of popular terminology was, at least in this district, by no means the exaggeration that has sometimes been suggested.

The immediate and direct effect of the dearth on the level of the indigenous population of the Carse of Gowrie was probably slight. But on the evidence of the Longforgan kirk session records and St Madoes *OPR*, the experience was desperately hard and traumatic. Other parishes in the district are less well documented than Longforgan, but

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[16] DCRAC, CH2/249/2.
[17] Tyson, 'Population of Aberdeenshire', 127.
[18] See Chapter 4.4, below.

those with more limited resources were likely, as in the case of St Madoes, to have fared worse. The wounds, psychological as well as economic, inflicted by the crisis after forty years of relative well-being, would have been very deep and left considerable scars. The ravages of the 'ill years' exposed the borderline viability of populations sustained by subsistence agriculture on marginal land. In the longer term they were a significant factor in the fundamental shift in the distribution of the population that brought about a marked decline in the numbers of those inhabiting the most rural areas.

[19] A. J. S. Gibson and T. C. Smout, *Prices, food and wages in Scotland 1550-1780* (Cambridge, 1995), 97. (The setting of fiars prices is discussed in Chapters 4.3 and 4.4, below.)

2.8 Population: Movement and Distribution

Table 2.3, above, has indicated that there was an overall reduction of at least 4% in the population of the Carse of Gowrie between *c.*1691 and 1755, but that this was not uniform across all parishes. There was considerable variation. Figure 2.8, below, illustrates the changing levels of population in the various parishes between *c.*1691 and 1801. The shifts in numbers and distribution form a distinct pattern and reflect the underlying changes that were being brought about in the society and economy of Lowland Scotland.

The parishes situated on the Sidlaw braes that were without villages of any size, suffered significant falls in the number of their inhabitants. In 1755 the population for Abernyte was 10% below that of 1691, while Kilspindie and Kinnaird were 7% and 3% below, respectively. In contrast, Errol and Longforgan, the largest parishes in terms of both area and population, are the only two to show a significant gain in numbers (9% and 6%) by 1755. These parishes contained the two largest villages of the district within their boundaries. Both were authorised to hold weekly markets as well as fairs; there is evidence that their markets were already well established before the second half of the seventeenth century.[1] The growth in Longforgan's population is supported by a 1719 document pertaining to the provision of stipends. It puts the 'Chatechisable' persons in Longforgan at 'upwards of a thousand';[2] when a further 25% for the number of children is added, this places the population at that time at *c.*1,250, more or less midway between the calculated figure for *c.*1691 and Webster's survey of 1755. The pattern revealed is of a drift of population away from the most rural areas of the Carse of Gowrie in the first half of the eighteenth century and towards centres that offered other economic opportunities.

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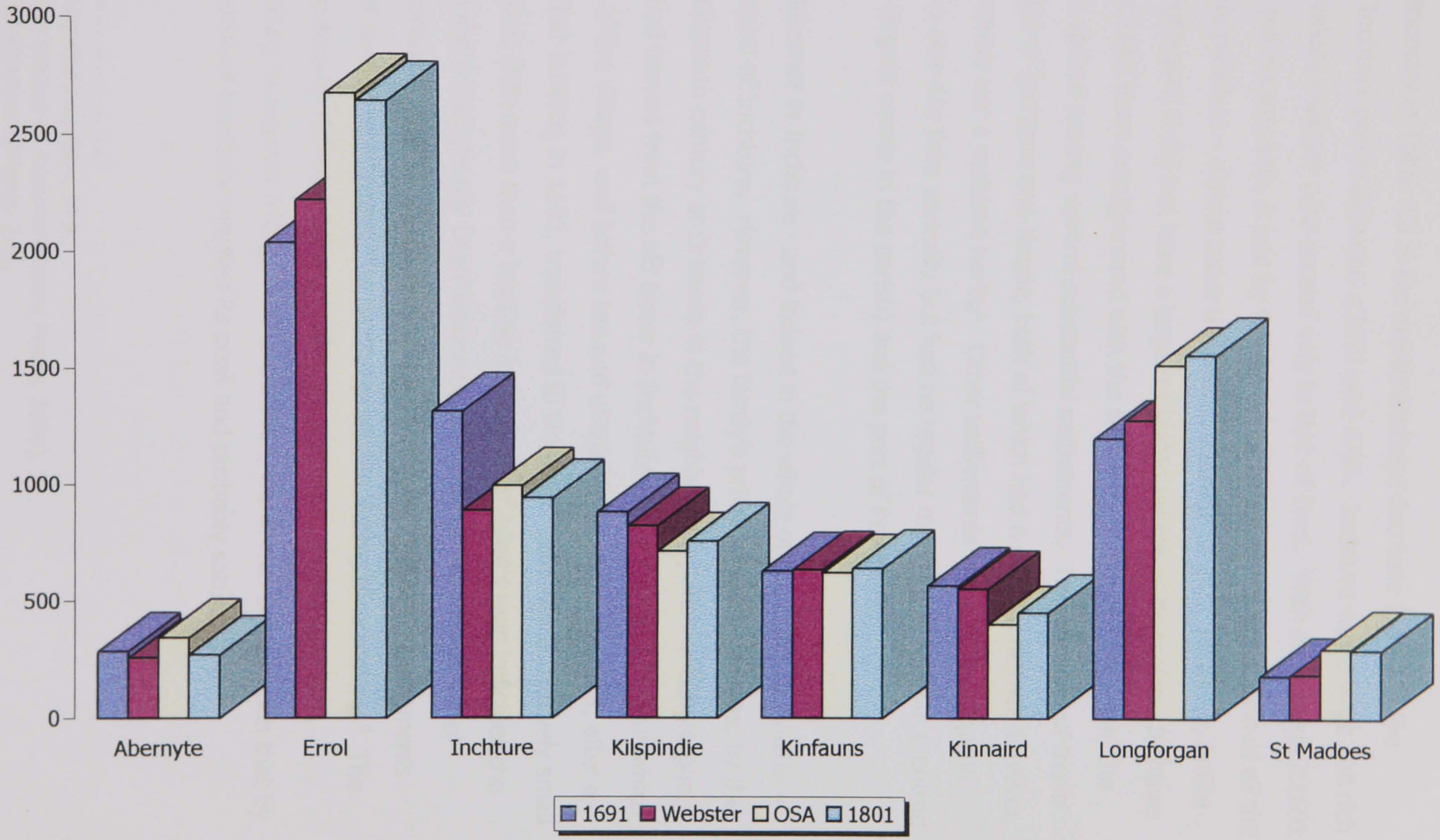
[1] J. D. Marwick, *List of Markets and Fairs Now and Formerly held in Scotland* (Glasgow, 1890), 608-9 and 642; DCARC, TD86 (uncatalogued); Millar, *Glamis Book of Record*, 29.
[2] NRA(S) 885, 54/1.

Figure 2.8 Population Levels, Carse of Gowrie parishes, c.1691 - 1801.



An apparent anomaly in Table 2.3 is the extremely large decrease (33%) in the population of Inchture parish between *c.*1691 and 1755. Inchture was a large and rich parish with a valued rent per acre second only to that of Errol. With an average *c.*1691 of 205 people per square mile, it had by far the heaviest density of population of all the Carse of Gowrie parishes – almost twice the district average of 114. However, unlike Errol (and Longforgan) it did not have a large nucleated village at its centre. Inchture parish had in *c.*1660 been amalgamated with the adjoining parish of Rossie and the population was spread among several substantial settlements. The principal of these were the villages of Inchture and Rossie, both of which had a church, neither however, had a market centre nor a resident heritor. Other settlements included Baledgarno (which held two one-day fairs annually but had no regular market), Ballindean (centred on the second largest estate in the parish) and the port of Powgavie.[3]

The largest landowner in Inchture - and indeed in the whole of the Carse of Gowrie – was Baron Kinnaird of Inchture. However, the family's principal residence was, by the end of the seventeenth century at Drimmie in the neighbouring parish of Longforgan. The Kinnairds had moved from the old tower in Inchture to the castle of Moncur which lay to the east of the village, well before the end of the sixteenth century but, after a fire destroyed that building in 1691, transferred to Drimmie. This was a relatively small house described as little more than a hunting lodge.[4] John Adair's map indicates the extent to which there had already been substantial investment in the creation of policies and enclosures around Moncur and Drimmie by 1683.[5] Such improvements provided a great deal of employment for local populations during their making.[6] The parish was agriculturally rich and enjoyed sufficient economic activity in the seventeenth century to support a large rural population, but it was a population that by *c.*1691 had in terms of numbers reached its peak and probably saturation.[7]

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[3] Marwick, *List of Market and Fairs*, 579.
[4] J. Macleuchlin, *The Barons of Kinnaird* (Rossie Priory, 1900), 21.
[5] J. Adair, *Mappe of Straithern* (Figure 2.6).
[6] See for instance Abercrombie's accounts for improvement works carried out on the Glamis estate in the 1770s. NRA(S) 883, 148/4; also, Chapter 4.5 below.
[7] The structure of rural society, the nature of work and the proportion of the population engaged in agriculture and rural manufacture are discussed in subsequent chapters.

When changes came in the economy and to the structure of agriculture in Inchture, there was no natural centre with a regular market that, together with a large busy residence at the heart of a flourishing estate, might have generated the alternative opportunities capable of attracting that sector of the population released from the most rural areas. In his study of Angus, Ayrshire, Fife and Lanark, T. M. Devine found that when cottars[8] were removed from farms in the eighteenth century they were not, by and large, dispersed but were able to re-locate in local villages.[9] In the case of Inchture, the nearby market centres of Errol and Longforgan and - rather further afield but still well within a day's walk - the large and by then fast growing towns of Perth and Dundee, were the most likely destinations for those who found themselves to be surplus to, or insufficiently rewarded by, an agricultural economy.

A feature of the Scottish economy throughout the eighteenth century and a critical factor in its development was the increase in the proportion of the population living in urban centres and the remarkable speed with which towns grew.[10] This was in direct contrast to the trend that was apparent in the second half of the seventeenth century in relation to Dundee and Perth and, indeed, to a number of other regions throughout Lowland Scotland.

Working from an assessment of rents of property in the royal burghs in 1639, the hearth tax data *c.*1690 and Webster's census of 1755, I. D. Whyte has calculated the changing sizes of a number of Scottish towns.[11] Populations of 12,000 for Dundee and 6,000 for Perth are indicated in 1639 against figures of 8,250 and 3,800 respectively, *c.*1690. This represents a fall of approximately one third in the size of their populations over the period. In contrast Edinburgh, by far Scotland's largest town as well as being its capital, almost doubled in size from 30,000 to 54,000. The population of Glasgow, the second largest town, also increased but, from a list of Scotland's twelve largest

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[8] Cottars: although wider definitions can be applied to this term, in the context of this thesis it refers to workers and their families who, in return for their labour, were allowed a cottage together with a small plot of land to cultivate for themselves.
[9] Devine, *Transformation,* 150-1.
[10] T. M. Devine, 'Urbanisation', in T. M. Devine and R. Mitchison (eds.), *People and Society in Scotland, Vol. 1, 1760-1830* (Edinburgh, 1994), 27-52.
[11] I. D. Whyte, 'Scottish and Irish urbanisation in the seventeenth and eighteenth centuries: a comparative perspective', in Connolly, Houston and Morris (eds.), *Conflict,* 14-28.

towns in 1639, Stirling was the only other to show an increase in its population by *c.*1690.[12]

The level of growth achieved by the two largest towns and also among some lesser urban centres resulted in a very small overall increase (from 11.7% to 11.9%) in Scotland's population living in towns with a population of 2,500 and above, between 1639 and the 1690s. This growth offset, but does not disguise, the apparent stagnation and decline – at least in population terms – of many of the larger regional centres at this time.[13]

A number of factors suggest themselves as playing a part in the reduction of size suffered by Perth and Dundee after 1639. The events of the 1640s and 1650s are likely to have contributed in large measure, at least in the short term. Both towns were ravaged by outbreaks of plague in the 1640s, in epidemics that may have claimed as much as a fifth of the population.[14] Each also suffered heavily in the Revolutionary and Civil wars. Dundee was sacked twice, by the army of Montrose in 1645, and more famously by the army of General Monck in 1651. Perth did not suffer a sacking but was occupied and Cromwell sited a large fortress there from where the surrounding region could be controlled. Both towns carried a heavy garrison of troops throughout the Interregnum. The wars waged by Cromwell against the Dutch and the Spanish in the 1650s are also likely to have had a very serious effect, particularly on Dundee whose economy was based traditionally on sea trade. In 1656, Tucker recorded only eighty ships of 25 tons burden or above in the whole country.[15] Commerce was interrupted and the small amount of Scottish shipping that existed was at risk not only from powerful sea-going nations with whom the country was at war, but also from the many privateers that thrived in times of disorder.

The catastrophic events of the 1640s and 1650s would have made the countryside around Perth and Dundee appear a haven, offering comparative security, a healthier

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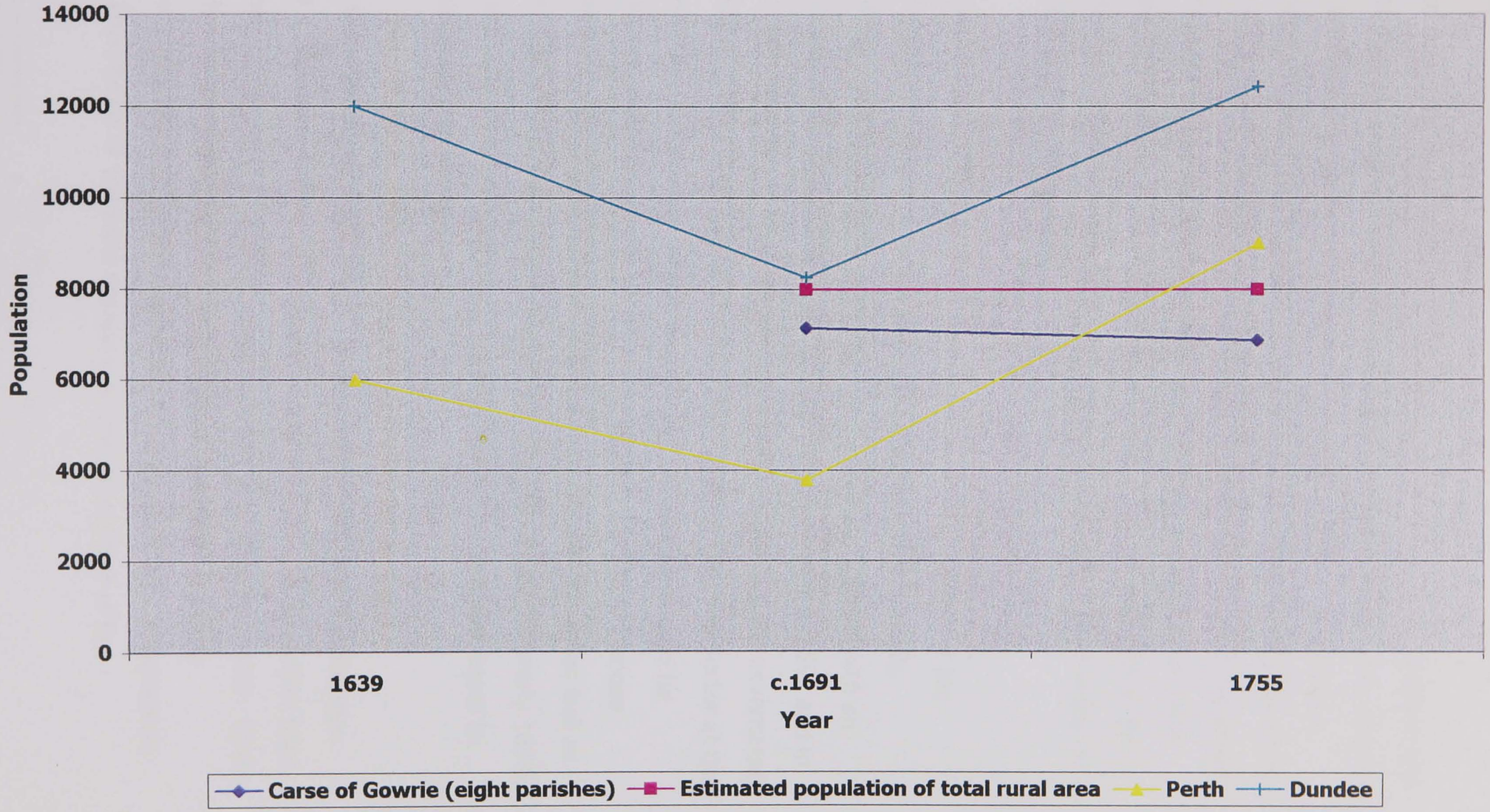
[12] *Ibid.,* 24.
[13] *Ibid.,* 18-19.
[14] Flinn, *Scottish Population History,* 133-149.
[15] Smout, *Scottish Trade*, 53.

Figure 2.9 Estimated Populations: Carse of Gowrie, Perth and Dundee, 1639 - 1755
Sources: 1691 hearth tax and I. D. Whyte, 'Scottish and Irish urbanisation'.



climate, food and economic opportunities at least as good as those to be found in the towns. But other regional centres, which did not suffer so immediately in the wars and their aftermath, also lost population between 1639 and the 1690s.[16] The various circumstances that had brought prosperity to these burghs in the early decades of the century were, in the second half, no longer present and those that would bring growth in the eighteenth century had yet to be established. The events of the 1640s and 1650s had brought to an end one era in Scotland's history. The second half of the seventeenth century was a time of transition and the economic tide of the burghs of Perth and Dundee was at its lowest ebb.

There are no records extant that give an indication of the actual number of the inhabitants of the Carse of Gowrie, or other rural districts, prior to the 1690s. However, a comparison of the populations of Perth and Dundee, together with an estimate of that of the whole of the rural area between the two towns *c.* 1691 and in 1755, gives some context to the level of population towards the end of the seventeenth century and an indication of the relative economic importance of the rural sector at that time. The eight parishes of the Carse of Gowrie for which populations could be calculated incorporated most, but not all, of the land between Perth and Dundee. There were, in addition, parts of the parishes of Kinnoull and Fowlis Easter as well as the Angus parish of Liff and Benvie. Hearth tax returns indicate that in the early 1690s, the population of the total rural area between the two towns was probably equal to that of Dundee and twice that of Perth.

Figure 2.9, shows the very considerable fall in the populations of Perth and Dundee between 1639 and *c.*1690 and their equally dramatic rise by 1755. On the other hand there was no increase in the total rural population between the latter two dates. While the figures reflect the fundamental shift in the dynamic of the economy from countryside to town in the first half of the eighteenth century, they also demonstrate the overwhelming importance of the rural economy in the second half of the seventeenth century.

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[16] In I. D. Whyte's list of the twelve largest burghs in 1639, those that suffered a fall in population along with Perth and Dundee were Aberdeen, St Andrews, Dumfries, Inverness, Montrose, Ayr and Haddington. Whyte, 'Scottish and Irish urbanisation', 24.

3. SOCIETY

3.1 Introduction

At the beginning of the seventeenth century the structure of Scottish society was still founded on a form of feudalism. The breakdown of the patriarchal system of lordship and the manner in which it was replaced by relationships based on economic interest is central to this thesis. This study will examine the nature and structure of rural society within the Carse of Gowrie *c.*1650-1707, together with the changes that were taking place in this critical period of Scotland's transition towards a modern state.

Feudalism was established in Scotland in the twelfth century. It was essentially a system of landholding with the ultimate ownership of all land vested in the king. Estates or fiefs were granted in heritable tenure by the king to his vassals; they in their turn could assign land, also in heritable tenure, to sub-vassals. Each vassal and sub-vassal was, in return, obliged to give his lord – i.e. his feudal superior - military service, provide him free hospitality and attend his superior's court when called upon to do so.[1] This form of feudal tenure was termed wardholding. The heritable nature of the assignation gave those awarded such grants the effective ownership of the land assigned. Ownership of land was synonymous with status, power and wealth. The greater the extent of the land held, the greater was the potential revenue from rents and the greater the number of followers that a lord could call to arms.

The Scottish form of feudalism evolved and was variously modified throughout the mediaeval period. An important development that had a major impact was the introduction of the feuferme system of tenure. This was based on the awarding of the

heritable tenure of a piece of land, not for services rendered, but in return for the payment of money. Unlike wardholding, it carried with it no military or judicial obligation.[2] This was a fundamental change, not only with consequences for the country's economic base but also in the creation of a means by which the number of landowners in the country was substantially increased. Monarchs feued parcels of land as rewards to officials and professionals in their service and, in the sixteenth century the church, which controlled a third of Scotland's agricultural land, feued a large amount of its territory by this method to raise money, ostensibly for repairs following the sacking of buildings at the time of the Reformation and also to meet taxation.[3] While much of the church land went to existing secular landowners, sitting tenant farmers were also able to feu a significant proportion, extending considerably the number of small estates.[4] This development had particular significance for the Carse of Gowrie where the Cistercian Abbey of Coupar Angus had a large grange and Scone Abbey some substantial landholdings.

In spite of this boost to the number of landowners, it has been estimated that outside the south-west of Scotland, where very small estates were common, 'there were probably less than 5,000 men who possessed the right to inherit or to sell the ground they held'.[5] In 1700, this figure represented less than 0.5% of Scotland's estimated population of 1,100,000.[6] In total, landowners formed therefore a very small group, which because of the nature and structure of Scottish society, wielded an enormous amount of power over the population at large through the system and administration of the law, within the economy and also ideologically. It was a position of power that, in the face of the circumstances in which they found themselves after the revolutionary wars, the changing nature of the times and the economic constraints, the landowning fraternity were determined to maintain.

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[1] Smout, *A History of the Scottish People*, 126-7.
[2] *Ibid*, 127.
[3] M. H. B. Sanderson, *A Kindly Place?* (East Linton, 2002), 20; M. Lynch, *Scotland, A New History* (London, 1992),181-2.
[4] Sanderson, *Scottish Rural Society in the Sixteenth Century,* 77-107.
[5] Smout, *A History of the Scottish People,* 126.
[6] Whyte, *Scotland Before the Industrial Revolution*, 113.

Towards the end of the sixteenth century an English traveller identified the lack of a 'middle rank of subjects' to 'tie together the two extremes of society' in rural Scotland.[7] A contributory factor to this perceived deficiency and variance between the two countries is considered to be the differing nature of their land markets. In England, the presence of a vigorous market in quite small parcels of land allowed families - who enjoyed good luck and good fortune - the opportunity to rise within a few generations from being tenant farmers, through the yeomanry, to the status of gentry.[8] In contrast it has been regarded that in Scotland, the opportunity to feu holdings of a size within the financial reach of tenants was, in general, much less common, with a consequent and considerable restriction on their progression towards landownership.

Central to agricultural improvement in early-modern Lowland Scotland was the replacement of the feudal ethos by a commercialised rural society and an agricultural economy capitalist in nature. An agricultural industry that is, in essence, modern and capitalist has at its heart independent and professional farmers - be they tenants or owner-occupiers - who are in possession of substantial capital and whose farming enterprises are worked for profit. The presence and power of the landed classes within rural Scotland in the pre-industrial period was overwhelming.[9] The estate was the basic unit of land organisation and the decisions of the estate proprietor determined the nature and structure of local society, its farming and economy.[10] Before any large-scale improvements to Scotland's agriculture could be carried out effectively, there had first to be considerable organisational changes involving the modification of farm structures.[11] The nature of rural society in the early modern period determined that any substantial change or development in the dynamic structure of agriculture had to occur within the framework of the estate and therefore under the aegis of the proprietor.

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[7] *Ibid.*, 151.
[8] *Ibid.*
[9] Devine, *Transformation,* 62.
[10] I. D. Whyte, 'The Emergence of the New Estate Structure', in M. L. Parry and T. R. Slater (eds.), *The Making of the Scottish Countryside* (London, 1980), 117.
[11] I. D. Whyte, 'The agricultural revolution in Scotland: contributions to the debate', *Area*, Vol. 10, 203-205.

Many writers, from J. E. Handley in the 1950s to T. M. Devine in the 1990s, have stressed the leading role played by landlords in the revolutionary transformation that occurred in Scotland's agriculture and society in the latter part of the eighteenth century.[12] The obverse of this argument is, that the power and control of Scottish landowners was such that only they were in any position to bring about major change. Until landlords set about the improvement and modernisation of the structure of their farms and estates, the majority of tenants were trapped in a non-commercial system and without the means or power to make any significant difference. Until landlords created or allowed the development of commercial and independent units within their estates, the large-scale improvement and modernisation of Scottish agriculture was effectively blocked.

In the second half of the seventeenth century there existed considerable regional and local variations in the manner in which tenants held their possessions.[13] While farms were most generally held as single-tenancies, there remained a significant proportion let as joint or multiple-tenancies. A joint-tenant farm was one where two or sometimes more tenants held a single lease for the farm, cultivating it together, sharing the crop and paying the rent as one. In a multiple-tenancy each tenant leased a separate and specific possession within the farm and paid their rents individually. It was common, however, for the rigs and parcels of land possessed by multiple-tenants to be fragmented and inter-mixed. This was the result of an original allocation that had regard for fairness and the equality of productivity of the possessions and dated from a time when each joint-tenant was obliged to contribute an equal share of the rent. A fragmented holding did not lend itself to independent development by the tenant or allow efficiency of management. The intermingling of often quite small parcels of land necessitated a communal approach by the tenants in strategy, general management and crop husbandry. It is considered that the tenor of this type of farming lent itself to co-operative subsistence rather than independent commercial endeavour.[14]

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[12] J. E. Handley, *Scottish Farming in the Eighteenth Century* (London, 1953); Devine, *Transformation*, passim.
[13] Whyte, *Agriculture and Society,* 138-145; and Devine, *Transformation*, 9-11.
[14] Joint, multiple and single farm tenancy in early-modern Scotland are discussed in some detail in Whyte, *Agriculture and Society*, 137-171; and in R. A. Dodgshon, *Land and Society in Early Scotland* (Oxford, 1981), 206-217.

A large single-tenanted farm would, in contrast, be leased, managed and cultivated by only one husbandman. Self-sufficient in equipment and manpower, the farmer was able to operate independently with the bulk of the farm work carried out by sub-tenants, cottars or hired servants acting under his or her instructions. Without the constraints imposed by communal working, there exists a greater incentive and the opportunity to maximise output.[15] Large, single-tenanted farms had the potential, in good years, to offer large rewards and the opportunity for the tenant to amass capital. A single farmer committing his or her own resources and making the management decisions increases the potential for efficiency. With the added security of a lengthy or life-time lease, such a tenant had the encouragement to invest his or her own capital and industry in expensive and long-term improvements in the knowledge and likelihood that it would be themselves, or their heirs, who would be there to reap the rewards. Single tenanted farms were, even in the seventeenth century, essentially 'modern' in their structure and potentially progressive, though in practice their efficiency was likely to be limited by a society, economy and technology that were under-developed.[16]

However, a great many single-tenanted farms were small and without the scale of production required to support the number of oxen and workers needed to operate plough teams of their own.[17] The limitations imposed by their size are likely to have left small farms restricted in a similar manner to those held in multiple-tenancies. From the information provided solely by estate rentals, it is often impossible to tell which holdings formed part of a multiple-tenancy and which were true single-tenancy farms. The small farm sector of Lowland Scotland in the 1690s has been found to be very large. T. M. Devine suggests that even though the majority of these may have been single-tenancy, this 'host of individual holdings were geared primarily to satisfying subsistence rather than market needs'.[18]

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[15] Whyte, *Agriculture and Society*, 141.
[16] *Ibid*; also Devine, *Transformation*, 9.
[17] There were numerous variations in the size and constitution of a plough team; however, the standard was deemed to be a team of eight oxen worked by a ploughman together with at least one goadman.
[18] Devine, *Transformation,* 10-11.

There were many factors critical to the creation and establishment of a commercialised and in essence capitalist, tenantry. Holdings needed to be productive enough to allow the tenant the freedom to act and farm independently. Sufficient security and length of tenure were required to provide an incentive for the tenant to invest and see a return on their own capital, enterprise and labour. Within the system of land tenure, enough mobility and flexibility were needed to allow the existence of a 'ladder', that tenants with ability might progress from smaller and even subsistence holdings, to larger and more profitable ones. For this to happen on any sustained scale, there had to be sufficient expansion in the wider economy to support increases in food production at prices high enough to leave a profit for the producer. Without a market there would be no incentive to invest in increased production. That there was an expansion in the economy in the second half of the seventeenth century is borne out by the rapid increase in market centres across Scotland during that period.[19] However, the price of grain - the principal product of the Carse of Gowrie - was low in the majority of years of the period under review.

This study will examine the nature of landownership in the Carse of Gowrie *c.*1650-1707. It will explore the extent to which the status quo was maintained in the aftermath of the Revolutionary wars and the changes that did occur. It will endeavour to ascertain the size and number of estates, who owned them and the degree to which proprietors were resident – important factors with regard to the scale and nature of investment, landlord involvement in farming and the improvement of estates. There will also be a focus on the small estates in the district and those who feued them.

The historic background of tenant farming in the Carse of Gowrie and the legacy left by the monastic estate of Carse Grange will be considered. There will be an assessment of the extent to which a modern farm structure was established in the Carse of Gowrie with an examination of the size and nature of holdings on a variety of estates *c.*1650-1707, the form of tenure, the changes that were being introduced and also the experience of tenant farmers.

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[19] Whyte, *Agriculture and Society*, 178-192.

3.2 Landownership in the Carse of Gowrie

This chapter will examine the structure and changing pattern of landownership in the Carse of Gowrie *c.*1650-1707. The extent to which the existing 'great' landowners[1] were able to maintain or strengthen their position, as well as the degree to which those from lower strata of the social order were able to gain entry to the landowning class, will be assessed.

The principal primary source from which data has been extracted on the ownership of land and the size and value of holdings is the valuation rolls that survive for the Carse of Gowrie dating from the seventeenth and the first half of the eighteenth centuries.[2] Aspects of the system of valued rent and its introduction have already been touched upon in Chapter 2.5. A feature that makes them an important tool in the research of changes in landownership is that the original valuation of the land was fixed. Its relative and comparative value was consequently maintained and remained consistent throughout the period. Any change in the amount of valued rent recorded against a particular holding or heritor[3] indicates, therefore, that land had been disposed of or acquired. A comparison of valuation rolls from different dates thus allows changes to be identified. Though by no means giving a complete

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[1] T. M. Devine has defined 'great' proprietors as those with land worth over £2,000 valued rent. Devine, *Transformation*, 62.

[2] The earliest set of valuation rolls for Perthshire can be found in W. Gloag, (ed.), *The Rental Book of Perthshyre, 1654*, (1835). This lists the valuations for each parish in the county as ordered by the Act of the Estates of Scotland dated 4th August 1649. The recorded valuations for the parishes of the Carse of Gowrie (pp. 6-14) are dated as at 1650. Contemporary valuation rolls for the district also survive for 1667. From 1696 until the nineteenth century when the system of taxation was changed, the Cess Books for Perthshire provide a comprehensive record of the payments made by landowners. (PAC CC1)

[3] The heritors of a parish were those persons liable for the payment of public burdens connected with that parish. 'Heritor' is the term used to denote a proprietor of land or other property who has the right to inherit or to sell that property. Rosalind Mitchison describes the term as including many landed groups and implying a status based on property rather than feudal superiority: R. Mitchison, *Lordship to Patronage: Scotland 1603-1746* (London, 1983), 67.

picture, these valuation rolls (also known as cess[4] rolls) provide the most comprehensive and accessible information on landownership that is available for this period.[5]

The valuation rolls for the Carse of Gowrie list the heritors of each parish, together with the valued rent of their holding in that parish. For the most part, the names of heritors are listed along with the names of their estates or holdings. In some instances, however, they are denoted only by the name of their estate - for example, the proprietor of the whole of St Madoes parish is termed simply as the 'Laird of Pitfour'. The name of a heritor could also be listed without any reference to the identity of the property excepting the amount of its valued rent. It is also far from certain how efficiently changes in the ownership of estates were updated in the cess rolls after 1696. In the light of these ambiguities additional information and evidence has been garnered from a number of other sources. The principal of these include *The Register of the Great Seal of Scotland*, which provides details of deeds and charters prior to 1668, *The Scots Peerage,* family histories and the muniments of Carse of Gowrie estates. [6]

Where holdings of land have been listed separately in the valuation rolls, but pertain to heritors from the same immediate family - as in the case of jointure lands or where siblings held land in proprietary runrig - the family has been regarded as the proprietor and the sum of the portions taken as the total valued rent. A distinction is therefore drawn between the term 'heritor' and that of 'landowner' or 'proprietor'. Within the terms of this study, the word 'heritor' is used strictly in accord with and as listed, by parish, in the valuation rolls.

A number of Carse of Gowrie heritors possessed land in more than one parish and the total listed for the district as a whole is, therefore, significantly more than the actual number of landowners. Baron Kinnaird, Laird of Inchture, for example, appears on the rolls of four parishes. It should also be noted that a number of

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[4] Cess: from the term 'assessment'.
[5] Eighteenth century valuation rolls were used extensively in the compilation of L. R. Timperley, (ed.) *Directory of Landownership in Scotland, c.1770* (Edinburgh, 1976).
[6] J Horne Stevenson (ed.), *The Register of the Great Seal of Scotland, AD 1660-68* (Edinburgh, 1914); J. Balfour Paul (ed.), *The Scots Peerage* (Edinburgh, 1963). Examples of family histories are R. Chambers, *The Threiplands of Fingask – a family memoir* (Edinburgh, 1853), and Macleuchlin, *The Barons of Kinnaird.*

proprietors of Carse of Gowrie estates were extensive landowners in other parts of Scotland. Among these were the Leslie family, Lairds of Inchmartine from 1650 to 1718 and who, as Earls of Leven and Melville, held very considerable estates (as did the Earls of Strathmore, Northesk and others). This study, however, focuses only on land held within the Carse of Gowrie. It has not been possible to include Kinnoull parish as the nature of the information given in the cess rolls does not allow the valued rent of the land lying within the district to be isolated from that lying without.

Chart 3.1, below, compares the estimated number of landowners in the Carse of Gowrie with the number of listed heritors as at 1650, 1667, 1696 and 1709. Also included in the chart is the number of women heritors listed at these dates.

As a proportion of the population of the district, the total number of proprietors was extremely small. In 1696 the figure was 47, equivalent to only 0.66% of the district's estimated number of inhabitants (7,145 in 1691[7]). This is a similar proportion to that suggested by T. C. Smout for Scotland as a whole.[8] Chart 3.2 compares the number of heritors for each Carse of Gowrie parish as listed in the 1696 valuation rolls with the estimated population for 1691.

The estimated number of families owning land in the district compared to the total number of parish heritors listed in the valuation rolls is also in line with that found in Aberdeenshire in the same period.[9] In 1677 in the Carse of Gowrie, there were sixty-nine proprietors against a total of ninety-three parish heritors (74%), this compares with the 621 landowners and 799 parish heritors (77%), found for Aberdeenshire.

With the exception of widows holding jointure lands (as in the case of Helen Middleton, Countess Dowager of Strathmore at Castle Lyon in 1696) and settlements made on unmarried daughters, the actual ownership of land by women was extremely limited. After marriage a wife's property (excepting her clothing, jewellery and the receptacles in which these were kept) passed under the complete

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[7] See Chapter 2.6, , above.
[8] See above. Smout, *A History of the Scottish People,* 126.
[9] R. Callander, 'The Pattern of Land Ownership in Aberdeenshire in the Seventeenth and Eighteenth Centuries', in D. Stevenson, ed., *From Lairds to Louns* (Aberdeen, 1986), 2.

Figure 3.1: Total number of heritors listed on the valuation rolls for the Carse of Gowrie and the estimated number of landowning families

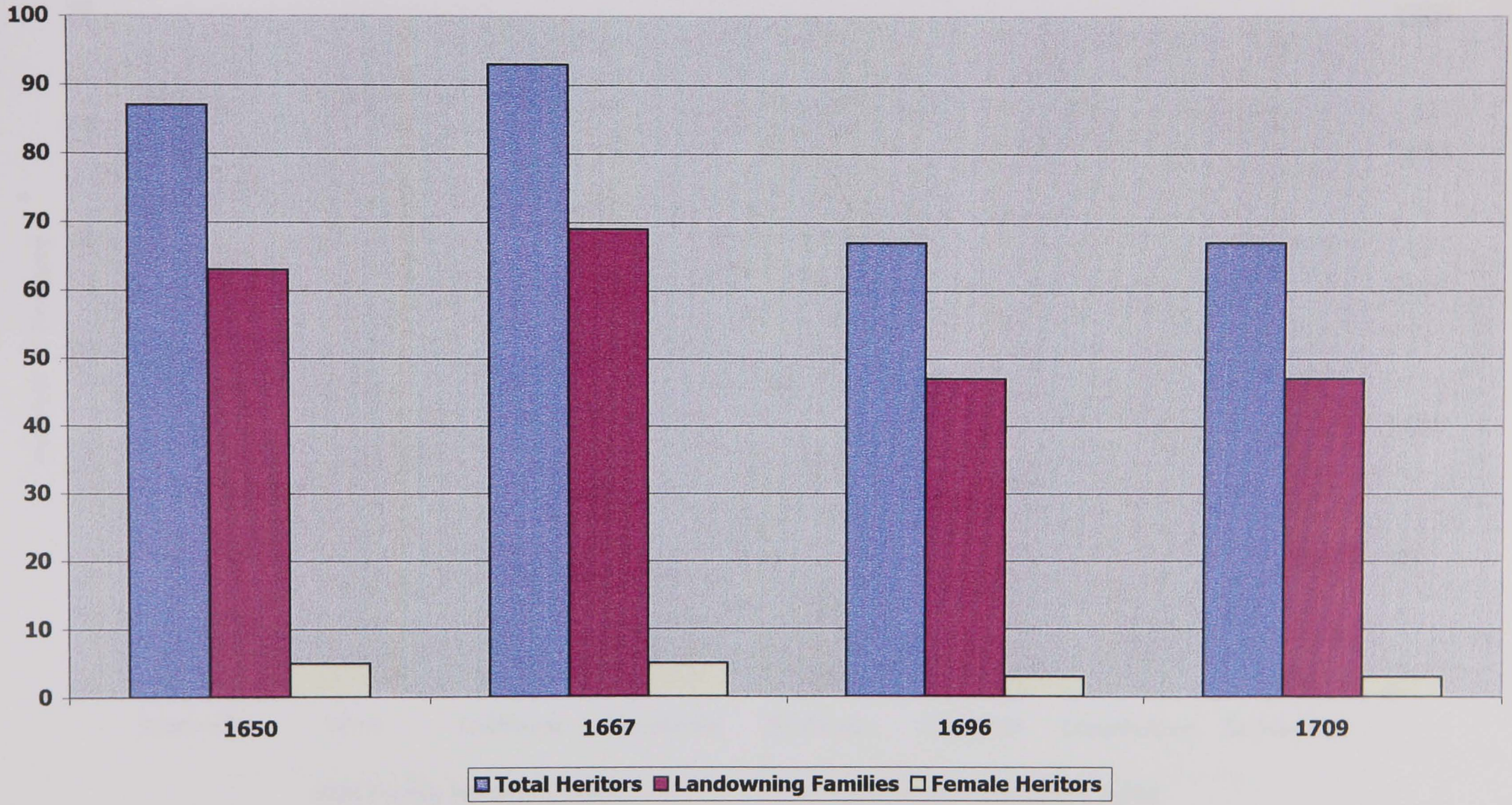
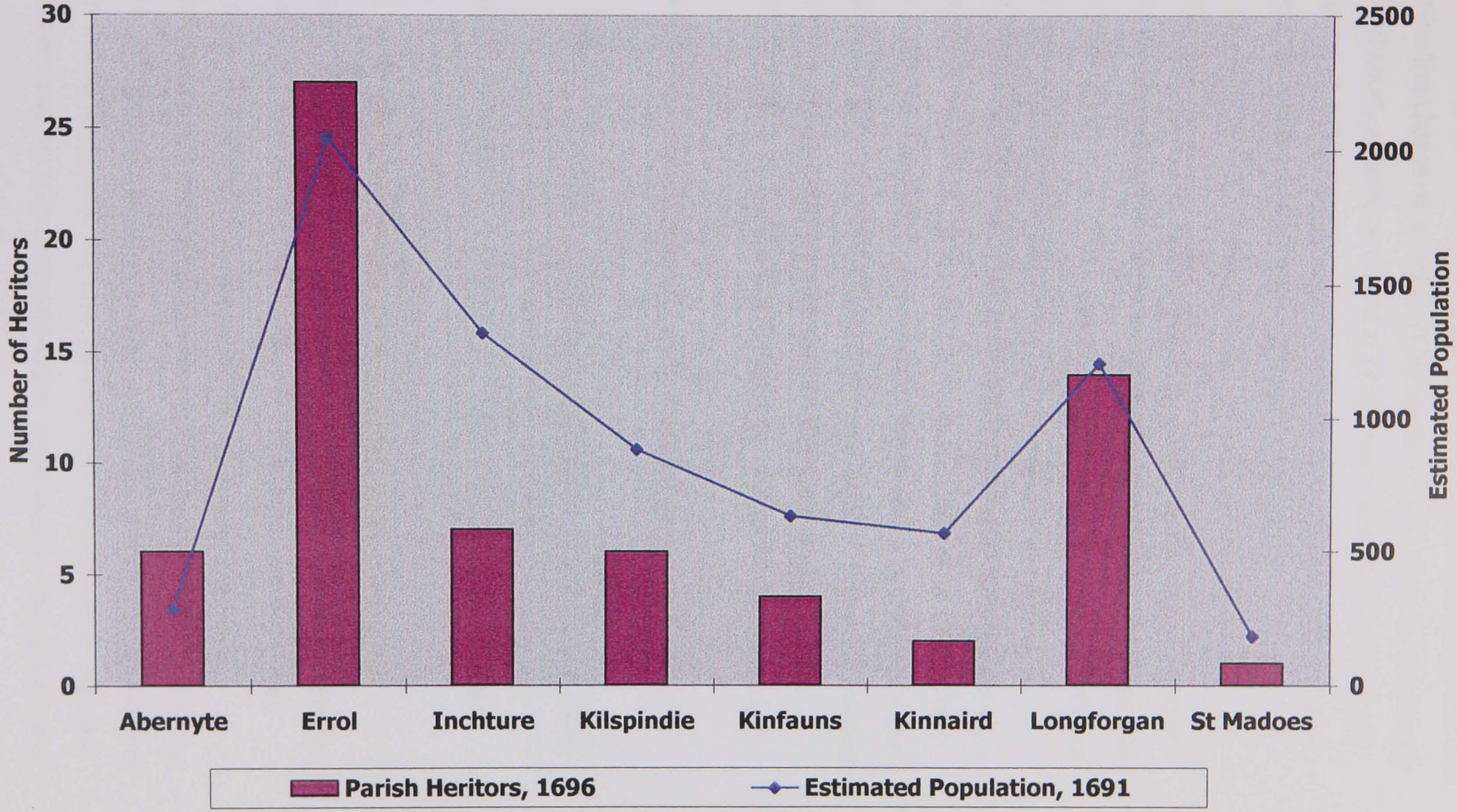


Figure 3.2: Number of heritors and estimated population of the Carse of Gowrie, by parish, 1690s



control of her husband.[10] It was not uncommon, however, and even expected, that a wife would have the charge of an estate if her husband was away for any length of time such as at court, abroad, or on the death of her husband if the male heir was in his minority. A husband could also assign the running and revenues of an estate to his wife, as in the case of Lady Halliburton at Pitcur.[11]

The changes that were occurring in the pattern of landownership in the Carse of Gowrie throughout the second half of the seventeenth century give an insight into the nature and level of upheaval in this period of transition. Between the dates of 1650 and 1667 there was an increase of six in the numbers of heritors and landowners, i.e., 7% and 10% respectively. Between 1667 and 1696, however, there were marked decreases of twenty-six (28%) in the number of heritors and twenty-two (32%) in the number of landowners in the district. In contrast, in the half-century between 1696 and 1748, changes in these overall figures were virtually negligible. Table 3.1, below, compares the numbers of heritors listed in the valuation rolls for the Carse of Gowrie at selected dates between 1650 and 1748.

Table 3.1. Total number of Carse of Gowrie Heritors at selected dates, 1650–1748.

Year	1650	1667	1696	1709	1723	1748
Total number of Carse of Gowrie Heritors	87	93	67	68	67	66

The overall reduction in the number of landowners in the Carse of Gowrie between 1650 and 1696 is 25%. This mirrors the findings for Aberdeenshire in the later seventeenth century. R. Callander considers that the maximum number of landowners in that county had been passed in the early to mid seventeenth century and that the fall in numbers there, between 1667 and 1696, was the continuation of a trend started in the earlier period. He also shows that in Aberdeenshire the total number of landowners and heritors continued to fall, quite steeply, through the first

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[10] Forte, A. D. M., 'Some Aspects of the Law of Marriage in Scotland: 1500-1700', in E. Craik, (ed.), *Marriage and Property, Women and Marital Customs in History* (Aberdeen, 1984), 104-118.

[11] NAS, RH 4/10, Court Book of the Baronies of Pitcur and Haliburton.

half of the eighteenth century.[12] I. D. Whyte confirms that the number of Aberdeenshire landowners fell by 25% in the later seventeenth century and continued to decline during the first three-quarters of the eighteenth.[13] This is in marked contrast, however, to the pattern of landownership found for the Carse of Gowrie where the major and particular changes that were taking place in the district had, to a large extent, run their course before the end of the seventeenth century. Chart 3.3, below, gives details of the changes, on a parish basis, in the context of the extended period.

Changes in the total numbers of heritors and landowners give an indication as to whether landholdings were being consolidated or dispersed, but they do not reveal the full extent to which land was changing hands. In the years between the publication of each of the rolls there was, also, time and opportunity for many additional transactions large and small to have taken place. In the 1680s, for instance, the Earl of Strathmore feued a holding at Longforgan to his builder, Andrew Wright, in part payment for work carried out, but bought it back only a few years later when Wright moved to a larger holding at Glamis. The small estate of Trottick in the Knapp had at least three different owners in the course of the second half of the seventeenth century but, as on each occasion it was sold as a single and entire unit, there was no alteration to its valued rent over the period and, because its proprietors did not own other land in the district, there was no change to the total number of heritors.[14]

Table 3.2, below, is a summary of landownership in the district at the three dates in the seventeenth century for which comprehensive valuation rolls are available, and as at 1709. It must be emphasised that the sources consulted are not complete and do contain ambiguities but, as far as it has been possible to ascertain, the table lists (as proprietors) the names of the largest landowners, together with the total value of their holdings, within the eight complete parishes of the Carse of Gowrie. Within the overarching pattern of a small minority of the population holding the large majority of the land, some considerable reorganization took place in the

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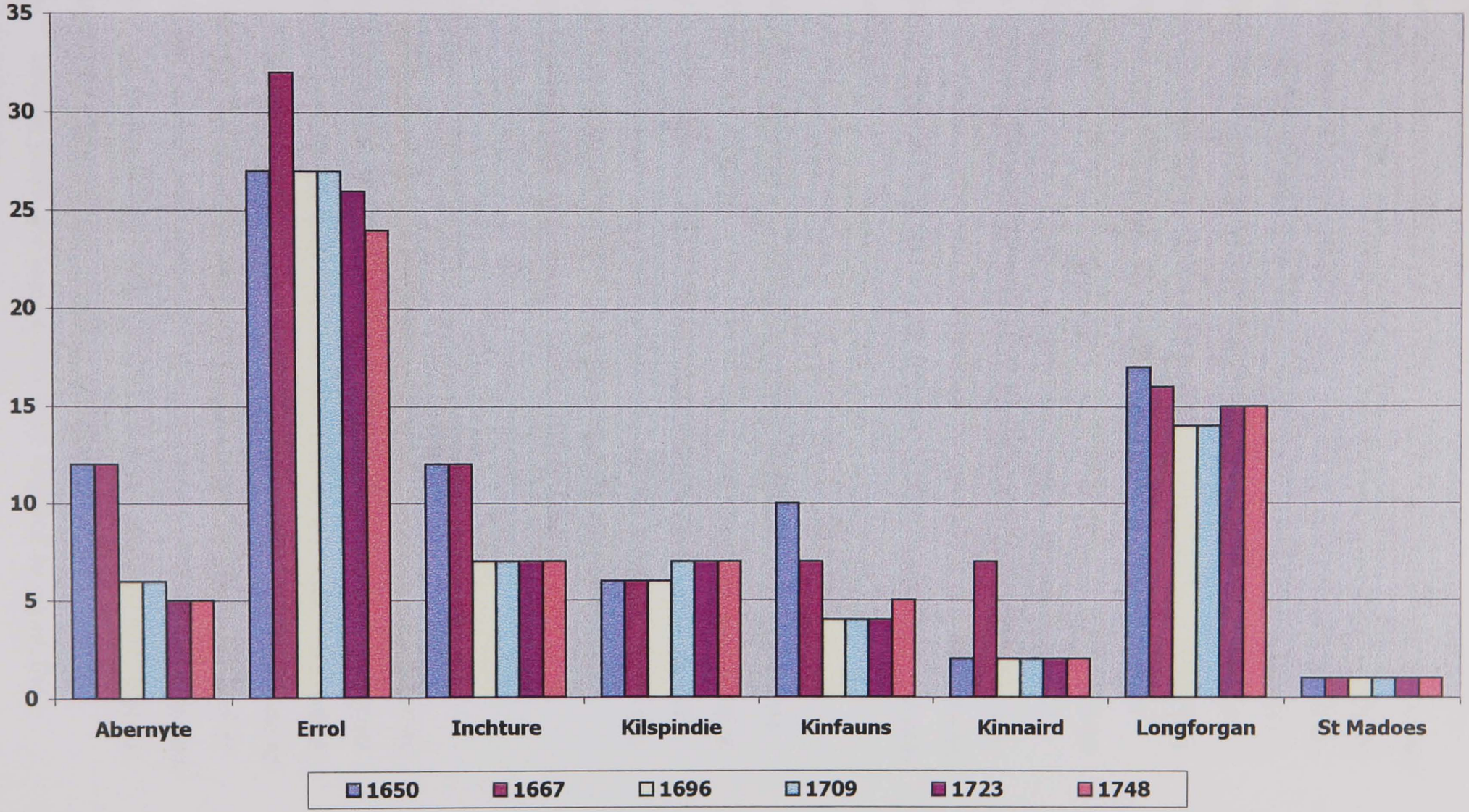
[12] Callander, 'Land Ownership in Aberdeenshire', 1-9.
[13] I. D. Whyte, *Scotland's Society and Economy in Transition, c.1500-c.1760* (Basingstoke, 1997), 25.
[14] A very time consuming search of sasines beyond the scope of this thesis would be required to ascertain the full extent of land transactions in this period.

Table 3.2: Landholdings within the Carse of Gowrie.

Holdings with a total valued rent of :	1650		1667		1696		1709	
	Proprietor	**Valued Rent £Scots**	**Proprietor**	**Valued Rent £Scots**	**Proprietor**	**Valued Rent £Scots**	**Proprietor**	**Valued Rent £Scots**
£4000+	Ogilvie Kinnaird	9161 5883	Kinnaird	6191	Kinnaird Leslie	6343 5066	Kinnaird Leslie	6343 5066
£3000-3999	Lyon Lindsey	3672 3488	Leslie Lindsey Carnegie Lyon	3919 3608 3469 3317	Threipland Lindsey Carnegie Murray Lyon	3655 3509 3408 3298 3119	Threipland Lindsey Carnegie Murray Lyon	3655 3509 3408 3298 3119
£2000-2999	Gray Elphinstone Murray Bruce Blair Butter	2814 2800 2757 2650 2240 2000	Gray Murray Bruce Hay of Murie Blair	2597 2843 2406 2292 2205	Gray Blair	2825 2205	Gray Blair	2825 2205
£1000-1999	Hay of Megginch Hay of Pitfour Hay of Kinnoull	1619 1269 1036	Hay of Kinnoul Hay of Megginch Hay of Pitfour	1775 1575 1269	Hay of Murie Hay of Megginch Hay of Pitfour Hay of Kinnoul Hay of Leyes	1834 1686 1269 1210 1071	Hay of Murie Hay of Megginch Hay of Pitfour Hay of Kinnoul Hay of Leyes	1834 1686 1269 1210 1181
Sub total: holdings of £1000 and over	13 proprietors	£41,389	13 proprietors	£37,466	14 proprietors	£40,498	14 proprietors	£40,608
£500-999	4 proprietors	2592	7 proprietors	5271	6 proprietors	4691	6 proprietors	4581
£100-499	25 proprietors	5170	25 proprietors	5661	15 proprietors	3661	15 proprietors	3661
£20-£99	10 proprietors	446	13 proprietors	682	5 proprietors	252	5 proprietors	252
£1-19	11 proprietors	133	11 proprietors	117	7 proprietors	54	7 proprietors	54
Sub Total: holdings under £1000	50 proprietors	£8,341	56 proprietors	£11,731	33 proprietors	£8.658	33 proprietors	£8.548
Totals	**63 proprietors**	**£49,730**	**69 proprietors**	**£49,197**	**47 proprietors**	**£49,156**	**47 proprietors**	**£49,156**

Figure 3.3: Number of Carse of Gowrie heritors, by parish, at selected dates 1650 - 1748



second half of the seventeenth century. In 1667, in excess of 30 per cent of the district is shown to be under different ownership – i.e. outwith the immediate family – from that recorded in 1650. A further 30 per cent is revealed as having changed hands by the 1696 valuation roll. Between 1696 and 1709 changes were minimal. The nature of the changes before 1667 was significantly different to those in the period after 1667. Between 1650 and 1667 there was great activity in the land market but only limited change in the general pattern of landholding. Land to the approximate valued rent of £16,000 is recorded in the rolls as having changed hands. Among proprietors with valued rents of £1,000 and above, only the valued rent of the holding of the Laird of Pitfour showed no change. But changes in the overall number of heritors and proprietors were small. A limited number of smaller proprietors in Errol and Kinnaird parishes were able to take advantage of the break-up of large estates while, in Kinfauns and Longforgan, the interests of some smaller heritors were taken over.

In the early part of the seventeenth century, many of the noble and land-owning families of Scotland were beset by what Michael Lynch has described as 'a flood of debt'.[15] In the Carse of Gowrie the most notable casualty to be swept away was Gilbert, Earl of Erroll when, in 1634, he was forced to sell the Barony of Errol - the largest single landholding in the district - to a consortium of local landholders headed by Francis Hay of Balhousie.[16]

The financial problems of many Carse of Gowrie landowners were made considerably worse by the exigencies of the mid-century wars and compounded by the heavy fines and taxation imposed in their aftermath. Records from this period testify to the difficulties faced by estate owners. In 1647 for example, the curators for the Barony of Errol negotiated to restructure financial arrangements and fund an (unsuccessful) attempt to return the manor and mains of the barony to the Earl of Erroll.[17] In 1650 the Earl of Leven purchased the large estate of Inchmartine (which included land in Errol, Inchture and Kinnaird parishes) from Lord Deskford, only to have it sequestrated by General Major Overton, an officer in General Monck's occupying army.[18] Several years and legal action were required to regain the

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[15] Lynch, *Scotland, A New History*, 248.
[16] PAC MS100/963.
[17] NRA(S) 885, 198/1/6(1).
[18] NAS, GD26/V/595.

property. Patrick, third Earl of Kinghorn, (later made Earl of Strathmore) was effectively bankrupt when he reached his majority in 1660; he complained that his lands at Glamis were 'wadset[19] to the castle walls' and Castle Lyon so bare that he had to borrow a bed from the minister of Longforgan in which to sleep.[20] The large and productive estate of Belhelvie in Aberdeenshire had to be sold and many other smaller areas of land feued. Among the many debts and claims against his estate was an action begun against his father, the second Earl of Kinghorn, by the Earl of Kinnoull, concerning securities made on the Barony of Errol.[21] In 1671, the list of debts on which the Earl was paying interest totalled, approximately, £167,000.[22]

Deep indebtedness and the turmoil left by war, plague, defeat and occupation provided the background to the land market in the Carse of Gowrie in the 1650s. As well as the sale of the ancient estate of the Ogilvys at Inchmartin and the breaking up of the Barony of Errol mentioned above, two other proprietors lost substantial landholdings in the district. The Elphinstones (Earls of Newburgh, Lords of Balmerino and Coupar) first wadset and later feued the Kinnaird estate they had purchased in the early years of the seventeenth century and the Carse Grange lands they had acquired on the dispersal of the lands of the Abbey of Coupar Angus. Gormock Butter was forced to sell the greater part of his lands at Ardgaith. Together, these four estates accounted for more than 28% of the valued rent of the district. In addition, the Register of the Great Seal is littered with many smaller transfers, as estate owners were forced to sign away parcels of land, the security on their debts to local merchants.

By 1667 and after a decade of relative peace the pattern of the changes in landholding in the district was very different. The trend became one of consolidation of land and estates in the hands of the largest proprietors and at the expense of the small. The contrast with the period in the immediate wake of the revolutionary wars is testimony to the speed of the return to relative financial strength and dominance of the largest landowners in the Carse of Gowrie. By 1696,

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[19] Wadset: a form of mortgage where the use of land was exchanged for the loan of a capital sum. Wadset land was out of the hands of the proprietor until redeemed.
[20] Miller, *The Glamis Book of Record*, 29.
[21] NRA(S) 885, 27/4/9 (1658).
[22] NRA(S) *Papers of the Earl of Strathmore,* 163/7/6. This figure is estimated to be the equivalent of approximately £1,500,000 (sterling) at 2002 values. (Economic History Services.)

almost 60 per cent of the district was in the hands of proprietors with holdings of a valued rent amounting to £3,000 or above, compared with 45 per cent in 1650 and 42 per cent in 1667. The pattern of this change is illustrated in the charts below. Chart 3.4 displays the numbers of proprietors grouped according to the total rental value of their holdings in the Carse of Gowrie. Chart 3.5 displays the volume of land held by each of these same categories of proprietors.

Only the name of Bruce from the 1667 list of large proprietors (Table 3.2) is missing in 1696. Between 1667 and 1707 only one outsider joined the fraternity of 'great' landlords in the Carse of Gowrie: a merchant and provost of Perth, Patrick Threipland, purchased the castle and estate at Fingask in 1672 and, in 1674, the lands of the adjoining Barony of Kinnaird.[23] The total valued rent of these two estates came to £3,655.

The Laird of Leyes was the only other addition to the list of proprietors with holdings whose valued rent totalled £1,000 or above. Unlike Threapland, his family were not newcomers but a cadet branch of the family of Hay,[24] the senior arms of which included the Lairds of Megginch and the Earls of Erroll and Kinoull and who among them owned large swathes of land, not only in the Carse of Gowrie but also in other areas of Scotland. The Laird of Leyes was one of a select group of smaller proprietors who were able to take advantage of the opportunities offered by the financial straits of some of the large landowners. From an original feu in 1650 worth £323 in valued rent and wadsets worth in total substantially more (these included part of the Barony of Kinnaird), the family were able to build up a considerable estate over the second half of the seventeenth century. The Hays of Leyes were the only family with a landholding in the Carse of Gowrie with a valued rent in excess of £1,000 to increase their estate between 1696 and 1709, acquiring a portion of land adjacent to their own in Carse Grange from the Laird of Monorgan.[25]

The lack of changes in landownership recorded in the Cess books in the last decade of the seventeenth century and the first of the eighteenth reflects the quietness of

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[23] Chambers, *The Threiplands of Fingask*, 7.
[24] SAUL, MS36220 (Hay of Leyes).
[25] PAC CC1, (Errol).

Figure 3.4: Number of proprietors in the Carse of Gowrie, 1650 - 1709, categorized according to the total valued rent of their holdings in the district

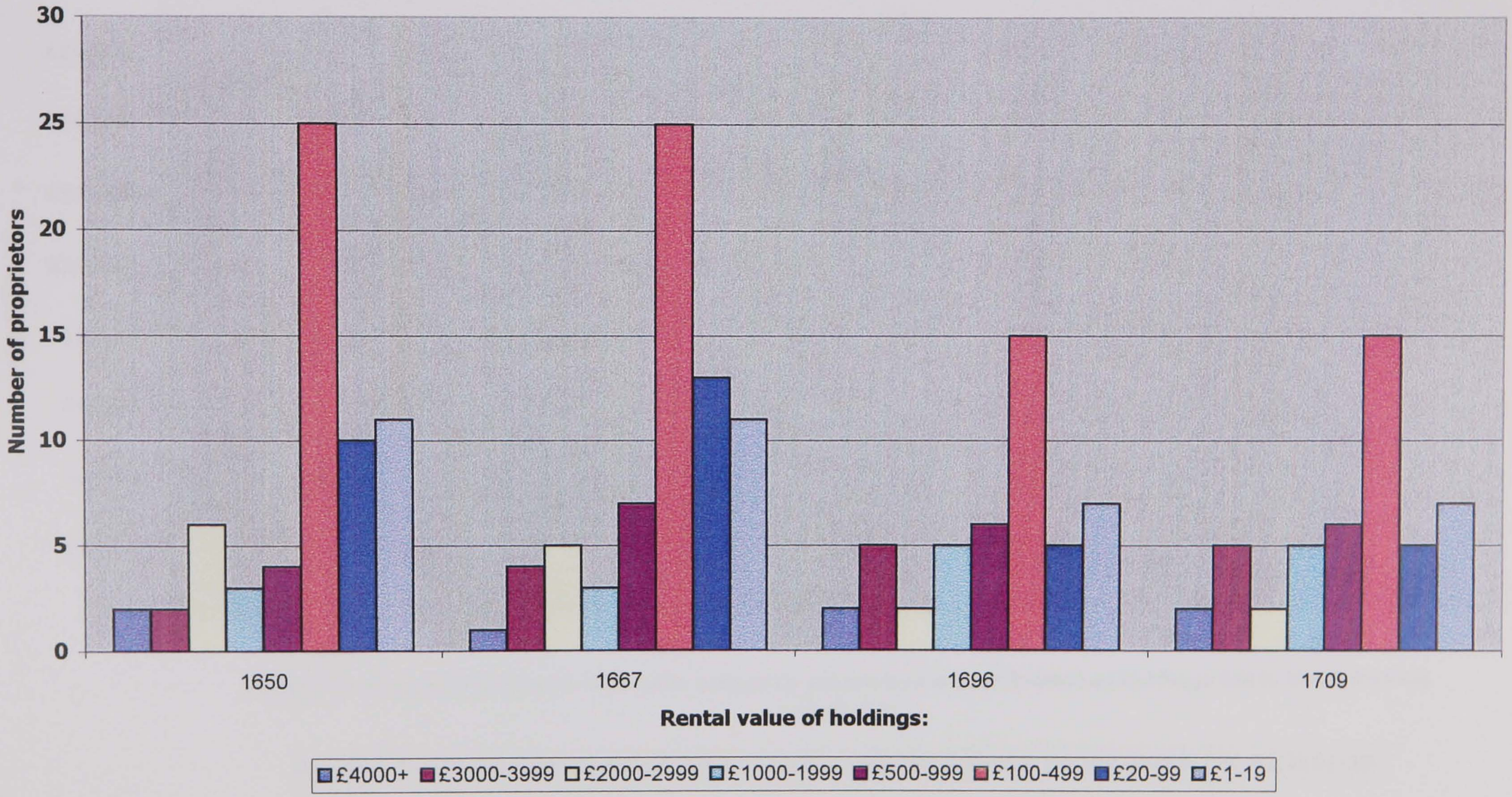
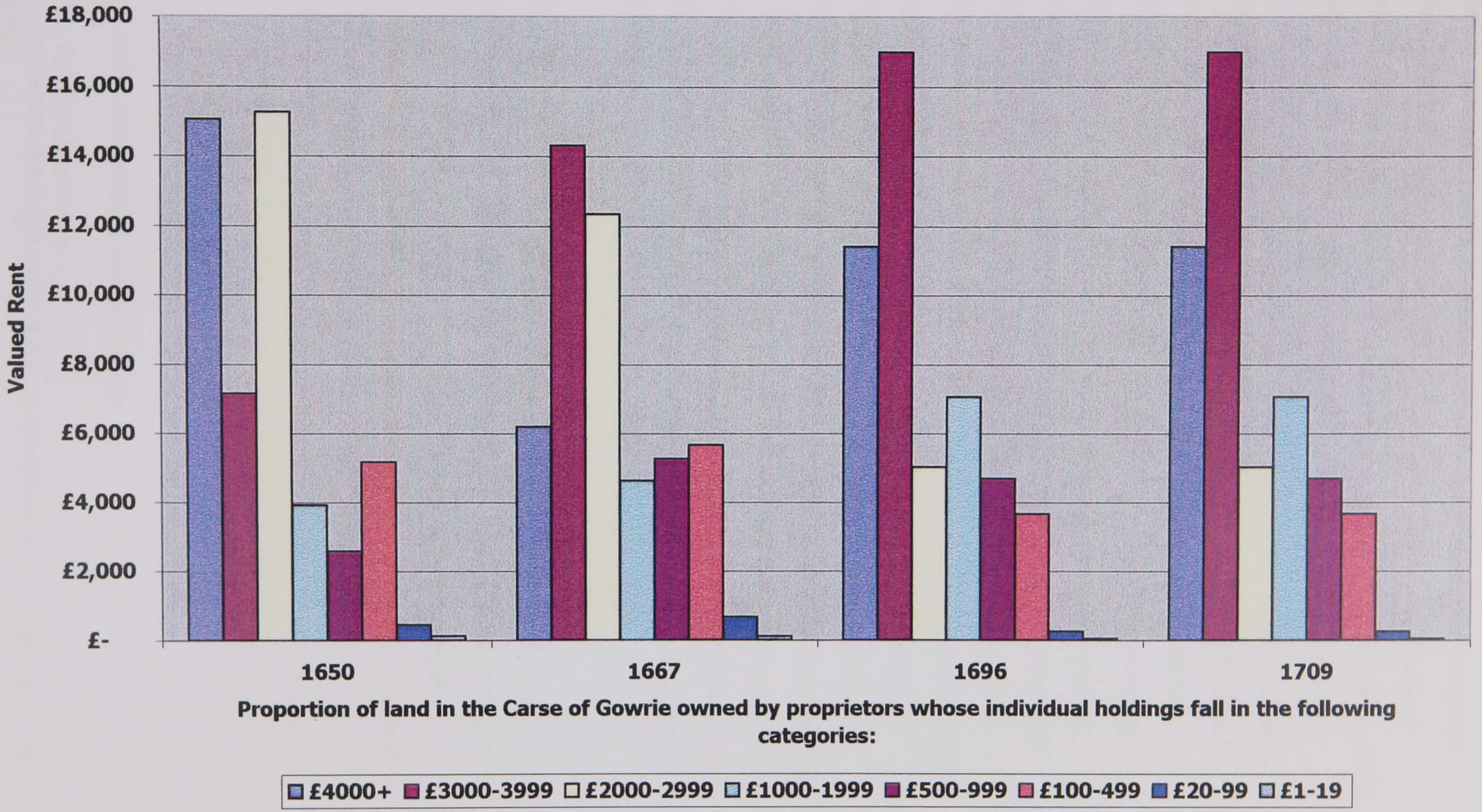


Figure 3.5: Patterns of Landownership in the Carse of Gowrie, 1650 - 1709



the land market in contrast to what had gone before. In addition to the security given by the law of entail introduced in 1685 that prevented the forced sale of estates as a result of the concentration of debts in the hands of single creditors, this inactivity is likely to have been, in part, a reaction to and a consequence of the considerable political upheaval and the economic disasters faced by Scotland as a nation at this time, all of which were felt at local level.[26] The area was subject to levies by both Jacobite and government forces in 1689.[27] There was a heavy military presence, the Earl of Kinnoull was forced to flee the country and troops were quartered on the Errol lands.[28] The district remained a centre of Jacobite sympathy.[29] Poor harvests throughout the 1690s culminated in Scotland's worst recorded famine. Some of the effects of this in the Carse of Gowrie have been described in the previous chapter. A number of local proprietors and their families incurred substantial losses in the failed Darien venture,[30] and the French wars pursued by King William further disrupted the country's already extremely poor trading situation.[31] This combination of events and circumstances may have proved disastrous for Scotland's status as an independent nation, they did not, however, prove ruinous for Carse of Gowrie landowners. But such times did not encourage speculative ventures in the land market and with little money available within the economy for funding major land transactions the status quo prevailed.

At the end of the seventeenth century only fourteen landowners - less than a third - enjoyed holdings totalling more than £1,000 in valued rent in the Carse of Gowrie and of these only the Threiplands were without long-established roots either in the district or as substantial estate owners.[32] Between them, these fourteen proprietors accounted for 83% of the district. Although events in the period of the revolutionary wars fractured the system of feudal lordship and loosened the ties of patriarchy,[33] the ultimate authority of the great Scottish landowners was in practical

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[26] Whyte, *Scotland Before the Industrial Revolution*, 157.
[27] NRA(S)885, 28/4.
[28] DARC, GD130/11, Northesk Muniments (1689).
[29] John, 5th Earl of Strathmore was killed at the Battle of Sheriffmuir in 1715 fighting on the side of the Earl of Mar.
[30] The Kinnairds, for instance, had £1,000 (sterling) invested in the venture.
[31] Smout, *Scottish Trade on the Eve of the Union*, 244-256.
[32] Macleuchlin, *The Barons of Kinnaird*, 15. The Threiplands of Fingask are described as 'a new family, the founder of which was a merchant in Perth'.
[33] Stevenson, 'Revolution and Conquest', 50-51.

respects, barely lessened. As well as monopolising power at county and national level, their will within their own domains remained all but absolute.

T. M. Devine has stated that in 1771 the proportion of land possessed by 'great' proprietors in the county of Angus was around 50%, in Ayr 34%, in Fife 44% and in Lanark 28%.[34] In the Carse of Gowrie at the end f the seventeenth century the proportion was considerably higher. Nine proprietors fell into this category and accounted for 68% of the land in the district. Six of the district's largest landowners, the Earls of Leven and Melville, Northesk, Kinnoull, and Strathmore, plus the Murray and Lindsey families all possessed still larger landholdings outwith the Carse of Gowrie. The largest proprietor within the district was Baron Kinnaird, Laird of Inchture, and although his estate was extensive his total possessions by no means matched those of the six listed above and were not in the same league as magnates such as the Argylls, Douglases, Gordons and Hamiltons, who held great swathes of Scotland.[35] Baron Kinnaird was of an 'old' and established landowning family, but the greater part of his property had been acquired within the immediate century, his title was only recently created (1673) and in rank he was below that of most other 'great' proprietors in the district. He was, however, a resident while the majority of the others were not.[36]

The pattern of landownership that was present within the Carse of Gowrie and the degree to which most of the 'great' proprietors were absent caused the district to differ subtly from areas of Scotland that were dominated by a local magnate. Great houses and the households they contained were at the centre of rural economy and society. Their physical and permanent presence had an enormous impact on local social and economic development. The improvement, building, enlarging and beautifying of country houses, which included the enclosure of policies and mains farms and the planting of trees, formed a considerable part of the investment carried out in the latter part of the seventeenth century. The principal residences of landowners were more likely to attract such investment than those on outlying and less visited estates. The differences that existed between estates with a resident

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[34] Devine, *Transformation*, 62.
[35] Smout, *A History of the Scotttish People,* 126.
[36] The Leslies, Lindseys, Carnegies, Murrays, Lyons and Grays.

proprietor and those without were various and far reaching and are explored in subsequent chapters.

In the Carse of Gowrie in the second half of the seventeenth century the pattern of ownership with regard to medium sized and small estates was markedly different to that of the major estates. There was, as might be expected, a much greater level of turnover in landholdings with a valued rent of £1,000 or less. As previously mentioned, a number of smaller proprietors were able to take advantage of the selling off of the Baronies of Errol and Kinnaird by feuing portions of land after 1650, but this increase in the total number of such landowners was short-lived. The reduction in the number of lesser estate owners was dramatic, dropping from a high of fifty-six in 1667 down to thirty-three in 1696, a fall of over 40%. Table 3.2 shows that this reduction occurred almost entirely among those landholdings with a valued rent of under £500.

It was not a straightforward matter of these smaller properties being absorbed by the large estates, however. Approximately half of the proprietors with landholdings of a valued rent under £1,000 on the 1696 cess rolls were not included on the 1667 roll and, therefore, were new to landownership in the Carse of Gowrie. Almost all were recorded as still being in possession of the same land in 1709, their holdings ranging from small feus in Errol to estates of up to £500 valued rent.

In addition to the opportunities afforded to buyers by the frequency with which some smaller estates were coming on to the market, the ever present need for cash also encouraged some of the 'great' proprietors to feu parts of their properties. This was against the general trend in the seventeenth century that saw a reduction in the fragmentation of estates. One reason for the decline in the popularity of feuing was that unlike rent, which could be increased, the level of the annual feu duty payable to the superior was fixed for posterity. In times of high inflation, as in the latter half of the sixteenth century, the value of this income fell dramatically. However, Patrick, Earl of Strathmore for one, declared himself happy, at the right price, to feu a number of his more outlying properties.[37] Small estates in Longforgan parish that had previously formed part of the Castle Lyon lands included

[37] NRA(S) 885, 190/1/23 (1691).

Dron, Millhill, Knapp, Lauriston, Littleton and Ballo, together with land at Bullion and Muirton.

Up until the 1690s it was possible for those with some means and the ambition, therefore, to gain at least a foothold on the lower slopes of landownership in the Carse of Gowrie, even if the higher inclines were accessible only to the very rich and well-connected.

3.3 The Feuars

The preceding chapter on landownership has demonstrated that most of the Carse of Gowrie was in the hands of a very small number of proprietors. Their hold was sufficient to ensure that when their land was disposed of, it was for the most part sold in large blocks to other 'great' landowners. The large majority of proprietors however – thirty-three out of the total of forty-seven – owned estates of under £1,000 in valued rent, twenty-seven of which were small estates valued below £500. It has been shown that the market in estates of this size was very active during the second half of the seventeenth century. This chapter will consider the nature of these properties and explore who the feuars were, in terms of social status, family connections and involvement in trade and farming. It will assess the extent to which the market in small estates afforded an entry to the landowning class and also the contribution made by feuars to the agriculture and economy of the district.

The distribution of small estates across the Carse of Gowrie was irregular. Table 3.3, below, records the number and distribution of estates in the possession of individual heritors in the parishes of the Carse of Gowrie, listed according to their valued rent and extent, as at 1696.

The parishes of Kilspindie, Kinfauns, Kinnaird and St Madoes were the exclusive preserve of large landowners. Although there were four estates within these parishes with a valued rent of under £1,000, all were owned by 'great' proprietors whose principal residences were in neighbouring parishes. The total number of parish heritors, as a proportion of their populations, was well below the average of 0.9% for the district as a whole. A similar situation existed in a fifth parish, Inchture; two estates there with valued rents of £712 and £467 were in the hands of Baron Kinnaird of Inchture and the Laird of Inchmartine respectively, the largest landowners in the district. There were only two independent holdings – two feuars,

James Fyffe of Dron and Andrew Mathieson each possessed portions at Powgavie. These five parishes demonstrated the hold that was in general enjoyed by the largest proprietors.

In the brae parish of Abernyte the largest estate was valued at a modest £454, although in acreage it was a good deal bigger than many of the best low ground estates. Abernyte was by far the poorest parish in the district in terms of valued rent per hectare, population per square mile and declared hearths per household.[1] No estate records pertaining to the parish in the period under review have been located to date. From the evidence that is available, none of the heritors of the four largest estates was resident. This is a circumstance that is probably not unrelated to the survival of muniments and was likely to have a significant impact on the governance of the parish and the nature of its economic development.

In Errol and Longforgan, the pattern of landownership differed significantly from the rest of the district. While each was still dominated by one or more great estates, there was also a relatively substantial number of small estates held by independent feuars. Some similarities between the two parishes had a bearing on the higher than average number of heritors located there.[2] The most significant was that each had a large nucleated village hosting weekly markets and annual fairs - the only two such in the district. These centres offered the work and opportunities generated by even quite small concentrations of population. Fairs and markets needed organisation, management and policing; trade was carried on, providing a focus for local merchants. There is likely to have been work for a writer, adding to the presence of professionals such as the minister and schoolmaster.[3] The level of economic and social activity present in these centres was integral to the support and viability of small independent estates. There were some differences, however, in the historical origins of the small estates between the parishes of Errol and Longforgan.

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[1] See Table 2.3, above.
[2] The proportion of heritors as a percentage of the population for the Carse of Gowrie as a whole was 0.9%. The figure for Longforgan was 1.15%, and for Errol, 1.3%. (Abernyte, with a proportion of 2.3% was the only other parish to exceed the average.)
[3] Writer: lawyer or notary.

Table 3.3: Number and distribution of estates in the possession of heritors in Carse of Gowrie parishes, together with their valued rent and size, 1696.
(Source: PAC CC1, Cess Books for the County of Perth; see also Chapters 2.5 and 2.6, above, with regard to land values and population.)

Parish	Estimated Population *c.*1691	Total no. of heritors (% of population)	Approx. Valued Rent per Hectare (£Scots)	No. of Estates according to their Valued Rent (£Scots) (their approximate size range, in hectares)					
				£1,000 and above	£500-£999	£100-£499	£50-£99	£10-£49	£1-£9
Abernyte	287	6 (2.3%)	£1 2s 0d	0	0	4 (91-454)	1 (45-90)	1 (9-44)	0
Errol	2,045	27 (1.3%)	£4 8s 0d	6 (227 and above)	4 (114-226)	8 (23-113)	1 (11-22)	2 (2-10)	6 (under 2)
Inchture	1,323	7 (0.5%)	£4 5s 2d	3 (235 and above)	1 (118-235)	2 (24-117)	1 (14-23)	0	0
Kilspindie	888	6 (0.7%)	£2 10s 5d	4 (397 and above)	0	1 (40-198)	1 (20-39)	0	0
Kinfauns	635	4 (0.6%)	£3 15s 5d	3 (265 and above)	1 (133-264)	0	0	0	0
Kinnaird	572	2 (0.3%)	£2 4s 5d	1 (450 and above)	1 (225-449)	0	0	0	0
Longforgan	1,310	14 (1.15%)	£2 1s 10d	1 (478 and above)	5 (239-477)	6 (48-238)	2 (24-47)	0	0
St Madoes	185	1 (0.5%)	£2 0s 0d	1 (500 and above)	0	0	0	0	0
Totals	7,145	67		19	12	21	6	3	6
Average		(0.9%)	£3 1s 7d	(325 and above)	(162-324)	(32-162)	(16-31)	(3-15)	(under 3)

It has already been noted that Patrick, Earl of Strathmore, the largest landowner in Longforgan parish from 1660 until his death in 1696, was happy to feu small outlying estates. It was a policy prompted by the scale of debts carried by the Strathmore
estates and was against the trend general in the district during this period. The land he feued accounted for approximately half the independent estates in Longforgan and included the small estate of Lauriston in the Knapp, the western portion of Dron, Millhill, land at Muirtoun and Bullion and the small farm of Byreflatt.

There are two other factors that may have influenced the feuing of these particular lands, a course of action that incorporated the loss of the heritable right to the properties and hence their permanent removal from the family holdings (other than as part of the superiority). The investment and the extensive improvements Earl Patrick carried out at Castle Lyon, ongoing until the end of his life in 1696, attests to his regard for both the house and estate.[4] However, the castle, policies, the toun of Longforgan and the principal farms, were the jointure portion of his wife. Should she survive him, she had the right to sell these. The value to the Strathmore family of the outlying lands remaining after such a sale would have been considerably reduced.[5] The second factor and one that made their sale possible, was the presence of purchasers with sufficient funds to pay the asking price. These buyers were found, for the most part, among the ranks of Dundee merchants.

According to the cess rolls of 1696 there were fourteen estates in the parish of Longforgan. Castle Lyon, with a valued rent in excess of £2,500, was by far the largest. The rest were all valued below £1,000. Drimmie was owned by Baron Kinnaird of Inchture; part of Littleton and two small estates at Newton were owned by Earl Gray and members of his family. The remaining nine estates were in the hands of independent proprietors.

As far as can be ascertained, at least six of these were acquired between 1667 and 1696 by feuars whose family fortunes were founded on merchant business.

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[4] Even though Glamis was the principal residence of the Strathmore estates, Earl Patrick lived at Castle Lyon when first married and in later years spent the summer months there. (Miller, *Glamis Book of Record*, 36-7.

Alexander Forrester held the feus of both Knapp and Millhill and Robert Strachan, Lauriston in the Knapp and the western half of Dron.[6] The estate of Monorgan (valued rent £873) was purchased from Monorgan of that Ilk by Henry Crawford. Crawford was a prominent Dundee merchant closely connected by marriage to the family of Alexander Duncan, a provost of Dundee and the Laird of Lundie.[7] Mylnfield was a new estate created by the family of Alexander Milne. At the beginning of the seventeenth century the Milnes were substantial tenant farmers on the small estate of Muirtoun, situated at the eastern edge of Longforgan parish.[8] The family also had considerable merchant interests and connections in Dundee, one of their number married a daughter of the powerful and wealthy Wedderburn family and Alexander Milne was a baillie of the town.[9] Mr Alexander Milne (probably the son of provost Alexander) was minister of Longforgan and in 1656 purchased Muirtoun House.[10] By 1667 the feu of the lands of Muirtoun and the neighbouring estate of Pilmore had been acquired. In 1696, with additional land feued from the Earl of Strathmore, Thomas Mylne possessed an estate – to which he gave the name Mylnfield – with a total valued rent of £719.[11]

Of the remaining estates, the merchant family of James Fyffe had held the eastern half of Dron from the end of the sixteenth century.[12] The small estate of Trottick in the Knapp (£106 in valued rent and probably extending to approximately one ploughgate) was feued by George Dickson. Dickson is thought also to have been tenant of one plough of land on the Castle Lyon estate.[13] The estate of Lochton with part of Littleton in the north of the parish was owned by Robert Gibb and his son Thomas, both respected farmers.[14] To date, little information has been found with regard to John Ogilvy, the feuar of Ballo.

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[5] In the event the Countess Helen did survive Earl Patrick and lived at Castle Lyon until her death. The estate remained part of the Strathmore family holdings as the jointure lands of subsequent Countesses until its sale in the third quarter of the eighteenth century.
[6] PKAC, CC1, *Cess Rolls,* Longforgan (1696); See also: NRA(S) 885, 64/1/10, 91/3/3, 92/7/45, 96/1/1(10), 198/6/24,
[7] UDAS, MS15/218/4(1); NRS(S) 885, Volume 273 and 198/2/33 (1691).
[8] Gauldie, *the Quarries and the Feus* (Dundee, 1981), 42-3.
[9] Wedderburn, A., *The Wedderburn Book,* Vol. 1 (Dundee, 1898), 161.
[10] A. Philip, *The Parish of Longforgan* (Edinburgh, 1895), 168-171.
[11] PKAC, CC1, *Cess Rolls,* Longforgan (1696).
[12] NRA(S) 885, 31/4/29 (1597) and 31/4/35 (1628).
[13] NRA(S) 885, 54/1/8 (1698) and 54/1/14 (1705).
[14] NRA(S) 885, 190/1 (1709).

Although only a little bigger in extent than Longforgan, the parish of Errol had almost twice the population, the valued rent of the land was on average double, the village was much larger and there were twice as many heritors. Also, the fragmentation of landholdings that gave rise to the relatively large number of small independent estates in Errol occurred earlier - in the middle decades of both the sixteenth and the seventeenth centuries. Carse Grange, a valuable grange of the Cistercian Abbey at Coupar Angus was feued in the sixteenth century, the Barony of Errol was broken up and sold in the 1640s and landholdings belonging to the Earl of Newburgh (some of the former Abbey lands) were sold off in the 1650s.[15]

An analysis of the Errol cess rolls for 1696 suggests that of the twenty-one estates with a valued rent of under £1,000, most were feued by owner-occupiers. The exceptions were Ross and Chapelhill, the Laird of Evelick's ground, and the part of Carse Grange belonging to James Monorgan of that Ilk - all held by heritors resident in neighbouring parishes. In addition, Alexander Duncan, the Laird of Lundie, owned the estate of Seaside. Most of the remainder were essentially owner-occupied estates extending to between a half and two ploughgates of very good land. There were also eight feus of six hectares or less.

As in Longforgan, approximately half the feuars in possession in 1696 had acquired their estates since 1667, but there is little evidence so far found to indicate that (with the notable exception of Alexander Duncan) these purchasers were merchants. The Longforgan estates were on generally good, fertile ground and very close to Dundee. They would, for merchants, be an investment, offering the very significant elevation in status to that of landowner as well as a source of victual with which to trade, all within little more than an hour's ride from their place of business. In comparison, the Errol estates were on the whole smaller, although the quality of the land was better. They had good access to the small ports of Powgavie and Port Errol for the transport of grain and other goods and even those of only half a ploughgate in size, had the potential to be very profitable and commercial farms. They were, however, between twelve and fifteen miles of poor road from either Dundee or Perth. The attraction of land in Errol for Alexander Duncan, even though his principal estate was at Lundie to the northeast of Dundee

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[15] Sanderson, *Scottish Rural Society*, 93. NRA(S) 885, 28/10/6 (Contemporary copy of the contract of sale, *c.*1647). PKAC, CC1, *Cess Rolls,* Longforgan (1667).

and his merchant and burgh business would necessitate much time in the town, was that his family were long established and successful farmers in Errol. George Duncan (possibly a nephew) ran the estate at Seasyde, holding in wadset and farming the greater part of the land.[16]

The influence of landowning Edinburgh merchants has been regarded as having an important impact on the comparatively early agricultural development of the Lothians, in terms of both their commercial approach to the management of their estates and in the introduction of improved farming techniques to increase grain production in support of their trading activities. The survival of records that shed light on the activities of the merchant-landowners of the Carse of Gowrie are very limited, but those that are extant suggest them to be heavily involved in the improvement of their estates.

Henry Crawford at Monorgan has been credited as one of the pioneers in the district with regard to the use of lime as manure.[17] Thomas Mylne enclosed much of his new estate. Some of this is depicted on John Adair's 1683 map, on land to the east of Longforgan.[18] In 1693, Mylne was able to prevail on the Countess of Strathmore 'as a friend' to sell a piece of her Castle Lyon jointure lands in order to facilitate the continuing improvements and enclosure he was carrying out.[19] The rentals of the much larger Fingask estate, purchased by the Perth merchant Patrick Threapland in 1672, indicate that the mains farm there was taken back in hand and policies created.[20]

In contrast, H. Blair-Imrie has found that even in eighteenth century Forfarshire there was very little evidence of new merchant families buying land, outwith some small estates acquired later in the century.[21] He also makes the point that investments made in improvements there were, in the long term, only successful economically where the land was intrinsically fertile and could support heavy

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[16] NAS, GD316/10 (Poll Tax record, 1696) and GD316/8 (discharge for the payment of feu duty *c.*1680).
[17] Donaldson, *General View of the Agriculture of the Carse of Gowrie,* 12.
[18] Figure 2.6 above.
[19] NRA(S) 885, 198/2/3.
[20] PKAC MS169/14/2/8.
[21] H. Blair-Imrie, 'The relationship between land ownership and the commercialisation of agriculture in Angus, 1740-1820' (Unpublished thesis, Edinburgh, 2001), 93

crops.[22] The quality of much of the land in the Carse of Gowrie and its capacity to grow strong crops of wheat were doubtless an important factor when merchants were looking for estates that could contribute both to their business interests and their status.

An example of the importance attached to status and its display is demonstrated by the two-storey, stone house built by Robert Strachan on his newly acquired estate at Dron in 1689. A contract for its construction was made with the Earl of Strathmore's own builder, Andrew Wright. The lintels above the windows of the front wall were to be decorated with the initials of Strachan and his wife, the year, and 'a heart to make the figure of a cinque'. The partitions and stair within were to 'conform to James ffife his new house exactly'.[23] The feuars of Longforgan were building new houses for themselves for similar reasons and at the same time as the nobles and great landowners were improving and beautifying their country seats. Robert Strachan was making his house the equal of that of his neighbour, the long established feuar of the eastern portion of Dron. In doing so and in employing the builder used by the Earl on the noble houses of Glamis and Castle Lyon he was making a very strong statement about the perception of his status.

The purchase by merchants of property in the Carse of Gowrie continued in the first years of the eighteenth century with the acquisition of some substantial estates. Patrick Yeaman acquired Murie in Errol (valued rent: £1,834) from Sir John Hay; the Fotheringhams bought Ballindean in Inchture (valued rent: £1,047).[24]

It has been noted that in Longforgan parish, most of the small independent estates had been acquired by their 1696 owners, only in the later decades of the seventeenth century. In Errol, almost half had been within the families of the feuars since the first half of the seventeenth century, or earlier. The origin of most of these long held estates was as part of the Carse Grange of the Cistercian Abbey of Coupar Angus. In the 1550s a substantial number of sitting tenants were able to purchase the feu of their possessions on the dispersal of the monastery lands.[25]

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[22] *Ibid.*, 207-8, 214.
[23] NRA(S) 885, 30/3/6.
[24] PKAC MS97/2; MS100/933; CC1, *Cess Rolls.*
[25] Sanderson, *Scottish Rural Society,* 93.

Unlike rents, the level of feu duties was set for all time and could not be increased. In the sixteenth and early seventeenth centuries rampaging inflation beset Scotland's economy; in real terms, therefore, the value of feu duties fell considerably over that period[26] - a factor that would have aided the prosperity of the small feuars and their survival. In 1650, at least eight of the owner-occupiers in Carse Grange would seem to have been descended directly from tenants holding the same possessions in the fifteenth and early sixteenth centuries. Six of these families were still to be found listed on the cess rolls in respect of landholdings of the same name in the eighteenth century.[27]

The name of Jackson, for example, first appeared on the renewal of a five-year lease in Westhorn of Carse Grange in 1465 and continued to feature on many tacks after that date.[28] In 1542 John Jackson was recorded as being the officer for Carse Grange and Alexander Jackson, in Waterybutts, as being the bailie.[29] The leases show how the various branches of the family were able to establish and consolidate their holdings, not least through marriage. Between them, the family were able to feu a substantial amount of land. In 1650, they are listed in the *Rental Book of Perthshire* as possessing in Carse Grange: Waterybutts, Bridgend of Carse Grange, Muirhouses and part of the West Quarter - holdings with a total rental value of £655.[30] Closely connected by marriage to the Jacksons[31] were the Browns, feuars of the larger portion of West Quarter of Horne. First mentioned in 1466, their occupation lasted at least into the latter half of the eighteenth century.[32]

Large sectors of rural society in the early modern period have been found to be subject to a high level of mobility; the permanence and stability of these owner-occupiers was an important part of the contribution they made to the agricultural development of the district.[33] As will be shown in Chapter 3.4, below, the Carse Grange tenants were responsible from the fifteenth century for the drainage and

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[26] A. J. S. Gibson and T. C. Smout, *Prices, food and wages in Scotland, 1550-1780* (Cambridge, 1995), 5-6.
[27] PKAC, CC1, *Cess Rolls*.
[28] C. Rogers, ed., *Rental Book of the Cistercian Abbey of Cupar-Angus*, (Grampian Club, 1879), Vol. I, 152:158.
[29] *Ibid*, Vol. II, 203 and 104-105.
[30] Gloag, *The Rental Book of Perthshire,* 10.
[31] Rogers, *Rental Book of the Cistercian Abbey*, II:251; also SAUL, MS36220/43.
[32] PKAC, CC1, *Cess Rolls* (Errol).

improvement of their lands and the establishment of orchards. Valuable knowledge and experience in working the heavy clay soils of the carse would accumulate over generations. As feuars, ownership of their land gave them the freedom, the assets and the incentive to invest in and improve their farms.

Although the proportion of land held by the owner-occupiers and merchant feuars accounted for no more than 10% of the total valued rent for the district, this was a significant amount when compared with the proportion of land actually farmed in-hand by the great landowners, a figure estimated to have been in the region of only 5%.[34] This emphasises the level of the visibility and influence in terms of farming practice and example that rested in the hands of these owners of small-estates.

The standing and social position of the owner-occupiers was high. The importance of resident heritors to the well-being of communities is attested in many entries in the *OSA* dating from the 1790s. It is likely to have been no less the case a century earlier. Many 'great' estate owners were non-resident or present on their estates for only part of the year; owner-occupiers played an important role in their absence. It was not uncommon in seventeenth century Lowland Scotland for landowners to employ the proprietor of a smaller neighbouring estate to act as their factor or bailie.[35] Alexander Forrester of Knapp was agent for Patrick, Earl of Strathmore in much of his business in the 1680s. Thomas Mylne of Mylnfield was factor to the Countess of Strathmore in the first decade of the eighteenth century. Thomas Gibb of Lochton was the independent farmer appointed to certify the work of the corncaster at Castle Lyon.[36] James Galloway in Carse Grange was the bailie on the neighbouring estate of Leyes in the 1690s.[37] The very small feus in Errol of no more than two or three acres were the homes of professionals, such as James Galloway, that the concentration of population there was able to support.

The apparent domination of rural society in Lowland Scotland by the great landowners has had the effect of relegating the role of small estate owners and

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[33] I. D. Whyte, 'Population mobility in early modern Scotland' in R. A. Houston and I. D. Whyte, (eds.) *Scottish Society, 1500-1800* (Cambridge, 1989), 37-58.
[34] See Chapter 3.5, below.
[35] Whyte, *Agriculture and Society*, 42.
[36] NRA(S) 885, 190/1 (1709).
[37] SAUL, MS36220/1824.

bonnet lairds to the sidelines of Scottish agricultural history. In the Carse of Gowrie, however, these feuars played a most valuable role.

In England, much of the contribution towards agricultural progress and prosperity has been attributed to the yeoman farmers, lesser country gentlemen and greater tenant farmers.[38] These were, for the most part, practical farmers who invested heavily in their farms in terms of both their finances and their commitment to the way of life. It has been suggested that the English pattern almost certainly reflects the relatively advanced and mature condition of the rural economy there.[39] The Errol feuars in particular, well set on some of the best and most valuable agricultural land in the district, represented a body of professional farmers who, within the limitations of a less developed economy, bore some comparison to and equalled the commitment of their English counterparts.

The origin of the small estates that survived in the Carse of Gowrie in the second half of the seventeenth century lay in the level of debt and the enforced sale of land by 'great' estates, both clerical and lay. The ill-fortune of some among the highest order of society was to the good of those from lower echelons and the economy as a whole. The existence of the small estates brought diversity to the socio-economic make-up of the district and opportunity for those with funds and initiative. Merchants brought commercial dynamism to the running and improvement of their estates. The feus were important rungs in the ladder essential to a capitalist society. The feuars, dependent for their livelihood on making their private capital work, were the foundation of a middling order, in close touch with the tenant farmers (from whose ranks many had risen) and trusted and listened to by the nobility. Feudal relationships in Lowland Scotland were breaking down in the second half of the seventeenth century; in the Carse of Gowrie the merchant feuars and owner-occupiers played a critical role in the creation of a more modern and commercial society.

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[38] See for instance, J. V. Beckett, 'Landownership and Estate Management' in G. E. Mingay, (ed.), *The Agrarian History of England and Wales, Vol. VI. 1750-1850* (Cambridge, 1989), 570-1. Also G. Batho, 'Noblemen,Gentlemen, and Yeomen' in J. Thirsk, (ed.), *The Agrarian History of England, Vol. IV, 1500-1640* (Cambridge, 1967), 301-306.
[39] Devine, *Transformation of Rural Scotland,* 60.

3.4 Carse Grange: A background and context to tenant farming in the Carse of Gowrie

Some of the earliest surviving examples of farm tenancy agreements in Scotland were those set by the monastic estates. A grange of the Cistercian Abbey of Coupar Angus was situated in the Carse of Gowrie. Written leases dating from the fifteenth and sixteenth centuries for the tenancy of land in Carse Grange and the associated Abbey lands of Newbigging, Muirhouses, Waterybutts, Bogmyln and Horn, all in the parish of Errol, are recorded in *The Rental Book of the Cistercian Abbey of Cupar-Angus.*[1] The monastic estates have long been noted for their progressive approach to agriculture and estate management and the information contained in the surviving tacks granted for Carse Grange provides a model of how strong, progressive and accomplished tenants could develop within the estate structure.[2] The leases present a background to and help put in context, land tenure in the Carse of Gowrie in the middle of the seventeenth century. The surviving tacks set by the Abbey for this grange record the creation and establishment of a body of substantial and independent farmers.

In themselves, written leases were extremely important and positive factors in the establishment of a strong and independent tenantry. They gave the tenant security of tenure for the duration of the tack; removal of a tenant before the expiry of a lease involved a complex and protracted legal procedure. Written leases afforded the opportunity for the respective positions and mutual obligations of both proprietor and tenant to be stated clearly and in a legally binding manner.[3] The information they contain can also provide the historian with an invaluable, sometimes unique, record of the nature of farm tenure, the size of holdings and the type of farm crops grown.

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[1] C. Rogers, ed., *Rental Book of the Cistercian Abbey of Cupar-Angus*, Volumes I and II (Grampian Club, 1879).
[2] I. D. Whyte, 'Written Leases and Their Impact on Scottish Agriculture in the Seventeenth Century', *Agricultural History Review*, XXVII (1979), 2.
[3] *Ibid.*, 5.

The leases that survive were generated by the Cistercian Order at Coupar Angus and are an expression of the way in which it managed its Carse of Gowrie grange. Unlike the manner of most lay estates of the period, Carse Grange was not in essence feudal. Its purpose, strength and value for the abbey was in the production of cash crops (wheat and fruit) rather than in the provision of followers, servants and soldiers reliant on a laird for their subsistence. The holdings on Carse Grange were the only ones, among all the lands in the hands of the Abbey of Coupar Angus, for which it was specified that tenants paid their duty in wheat.[4]

The written leases reveal the increasing importance of the tenants in the development and improvement of the possessions. The Abbey had already made the move from farming in its own right through lay brethren, to the role of landlord, by the middle of the fifteenth century.[5] The earliest surviving tacks date from the 1440s. They are few in number, brief in both form and detail and limited to a simple description of the holdings and the amount of duty payable. They show that the grange was let for the most part as a joint-tenancy. The joint-tenants were unnamed and referred to only as the indwellers or husbandmen. An example is:

> Mwrhus [Muirhouse] is let to the indwellers thereof for 7 years with the teind sheaves for 10 merks, 20 bolls corn and 24 hens.[6]

No tacks are extant for any of the Carse Grange lands between the dates of 1450 and 1464, but sixteen separate tacks survive for a period between 1465 and 1478; there is then another gap until 1492, after which date there are many. Of the sixteen leases dating from 1465 to 1478, three pertain to the joint-tenancy holdings of Muirhouses and Carse Grange, the rest are, in the main, single tenancy agreements. These leases record a shift from a simple joint-tenure of holdings by several tenants sharing and paying the rent as one, to a system where, increasingly, individual tenants were made responsible for their own specified possessions. All tenants are named and there is sufficient detail to show that Carse Grange itself

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[4] Rogers, *Rental Book of the Cistercian Abbey of Cupar-Angus*, I, 353-63.
[5] T. B. Franklin, *A History of Scottish Farming* (Edinburgh, 1952), 39-40.
[6] Rogers, *Rental Book of the Cistercian Abbey of Cupar-Angus*, I, 124:37.

was divided into 18 portions and shared between as many as 11 tenants.[7] A number of these tenants were closely related, being noted as sons or brothers.[8] The tacks become increasingly specific in their description of the possessions granted to each tenant and the rent payable. When leased, the land of the granges of the Abbey of Coupar were not, in general, divided into runrig but established as individual holdings.[9] By 1471, there is evidence of some consolidation of the 18 portions of Carse Grange and a reduction in the number of joint-tenants.[10]

The standard length of the nine tacks set between 1465 and 1472 was five years. A grassum, usually equal to a year's ferme, was required of a new tenant on the granting of a lease.[11] The renewal of a previously held tack was, on most occasions, marked by a significant increase in tiend duty.[12] These were real increases and not the result of monetary inflation - tiend formed by far the largest proportion of duty and was levied by the Abbey on Carse Grange as a set amount of grain, not as percentage or proportion of the crop. This rising demand from the Abbey coincided with an expansion in farming activity. It is in this period that some important changes, fundamental to the nature of the tacks, were introduced. From 1470 clauses begin to appear relating to matters such as 'good neighbour', the laying out of farms and the creation of orchards.[13] In 1473 the payment of tiend in wheat was first mentioned specifically, as opposed to the general term of 'frumentj' [corn].[14]

In setting short-term leases, such as those for five years, landlords retained relatively close control of their lands; there was opportunity for the regular adjustment of rent, the re-organisation of holdings or the removal of unsatisfactory tenants.[15] Short term leases, however, deterred investment by tenants who, especially if paying a high rent and without any guarantee of a renewal of their lease, were likely to be more concerned with how much could be extracted from the

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[7] *Ibid.,* 289:640.
[8] *Ibid.,* 154:166.
[9] Franklin, *A History of Scottish Farming*, 71.
[10] Rogers, *Rental Book of the Cistercian Abbey of Cupar-Angus*, I, 220:291.
[11] *Ibid.,* 223:301.
[12] *Ibid.,* 154:170.
[13] *Ibid.*, 155:171; 161:194.
[14] *Ibid.*, 188:232.

land, rather than in taking steps to conserve fertility and improve productivity over a long period. The onus for any development and improvement, where short-term leases were concerned, have lain firmly in the hands and actions of the landlord.

The granting of long-term leases and life-rents, on the other hand, represented a fundamentally different approach to estate management. A great deal of authority was given to the tenant and the balance of responsibility for the quality of farming practiced was moved away from the landlord; in the case of life-rents this was all but permanent. To retain some control over their lands and assets, landlords made tenancy agreements that contained detailed clauses and stipulations with regard to the preservation or improvement of their holdings. Nevertheless, at the end of the day and notwithstanding the influences of any encouragements given, or penalties imposed by landlords, how well the land was farmed rested squarely with the tenant and the level of his or her ability, attitude, resources and motivation.

The first record of the granting of a life-rent by the Abbey in Carse Grange is in 1473. It is evident that the ability and the suitability of those tenants granted such leases had first to be proven. The life-rent of a possession was either preceded by a short-term tack or granted to the son or sibling of an existing tenant - to someone therefore, already well known to the Abbey authorities.[16] The concern of the abbey that only trusted tenants, known to be able and reliable, were allowed to occupy and farm the land is illustrated by the clause in the five-year tack made with a widow, Agnes Brown, for the possession at Carse Grange previously held by her deceased husband, David Jaksoun

> '... Providing all wayis in cace she mary ane husband without our licence, the tak to be vacand, and we to dispone the tak to the barnis [children] or vther freindis.'[17].

That a woman's sex did not disqualify her from being granted a tack is shown by the preceding example and the numerous life-rents that named both husband and wife as the joint-tenants. However, the acknowledged precedence and authority of

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[15] P. Roebuck, 'The economic situation and functions of substantial landowners 1600-1815: Ulster and Lowland Scotland compared', in Mitchison and Roebuck, (eds.), *Economy and Society in Scotland and Ireland* (Edinburgh, 1988), 83-4.
[16] Rogers, *Rental Book of the Cistercian Abbey*, I, 220:292 and 188:232 and 255:429.
[17] *Ibid.*, Vol. II, 251.

men over women is not only demonstrated by the above clause, but also by the reality that there is no surviving tack granted by the Abbey in Carse Grange to a lone woman, other than to a widow for the possession previously held by her spouse. The life-rent tacks granted to the second or third generation all stipulated that the heir must be a male.

The tack granted to Agnes Brown and the leases granted to the second or third generation also conveyed the principle of customary tenant inheritance. This was of prime importance and of considerable value in terms of the security it gave to the family of the tenant as well as in its establishment of a class of professional farmers who over generations were able to acquire a high level of farming expertise, knowledge of their soils and also the opportunity to accumulate substantial capital. This continuity of occupation also lent an element of stability to the social order of the locality. The concept that lay behind the claim to customary inheritance was that of kinship and the right of the heir to succeed to the tenancy. (The term 'kindly', derived from the word 'kin', was given to this form of tenure.)[18]

After 1473 the large majority of tacks granted in Carse Grange and its associated lands were in the form of life-rents. The motives behind this shift in policy by the Abbey are not given. The granting of a long-term lease could be used to elicit a proportionately higher rent or grassum from the tenant than would be the case for a short-term lease,[19] but there is no evidence in the tacks to suggest that this was the case. If, however, the clauses included in the life-rent tacks pertaining to the development and reclamation of land are considered, a good case can be made that the awarding of these by the Abbey was prompted by a desire to place in the hands of proven tenants the high cost, in terms of labour and management, of maintaining their fertile but difficult, ill-drained and distant carse-land grange.

The leases reveal the extent to which it was the tenants who were given the responsibility for organising and carrying out the expansion and development of the land under cultivation, establishing farms and orchards and reclaiming land. In 1472 a five-year tack for four bovates of the Westhorn of Carse Grange was granted

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[18] A discussion of this concept and its incidence can be found in: Sanderson, *A Kindly Place?*, 7.
[19] Whyte, 'Written Leases and their Impact on Scottish Agriculture' 5.

to William Clerk at a low annual rent; in return he was obliged to lay out the land of Westhorn to advantage in buildings, in plantings of trees and 'gaining the land as far as possible from submersion in water'.[20] David Gardner was made responsible for the creation and keeping of an orchard and fishponds at Carse Grange and Andro Jakson a new orchard at Muirhouses.[21] Each of the latter was directed to purchase the best fruit trees that were available. A proportion of David Gardner's costs were to be met by the Abbey.

Progressive clauses that encompassed manuring, drainage and the planting of trees were included in almost all the life-rent leases. In essence they bear similarity to those contained in 'improving' tacks from the seventeenth and eighteenth centuries. The life-rent tack granted to the tenants of Carse Grange and Muirhouses in 1478 exhorted them to make, uphold and, if need be, increase the drains for the common profit of the toun. This and other demands contained in the lease, were followed with the threat: 'And at al thir pwntis forsad be treuly kepit ondyr al peynis tha ma tyne of law' [And that all these foresaid points must be truly kept under all pains that they may legally suffer].[22] When the five-year tack on John Keir's toft was converted to a life-rent, he was ordered (in a clause standard to many tacks) to plant and maintain trees there - ashes, osiers and willows.[23] Thomas Jackson was obliged to manure his four-acre orchard at Carse Grange and Alexander Jackson, while given the power to make sub-tenants on his possession, had also to occupy it himself and be responsible for its labouring and manuring.[24]

As represented in the tacks, the stature of the tenants and the importance of their role within the structure of the monastic estate had been transformed in a matter of thirty years. It is easy (if not necessarily correct) to interpret the nameless indwellers sharing a joint-tenancy in the 1440s as subsistence peasants, far removed from the progressive farmers of the 1470s who are seen to be growers of commercial crops, entrusted with the life-rents of substantial holdings and responsible for the development of the grange. Insufficient information survives to reveal the full extent of the kinship between the two, but the tacks from 1465 and

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[20] Bovate: an oxgate; four would be approximate to 52 Scots acres (27 hectares). Rogers, *Rental Book of the Cistercian Abbey of Cupar-Angus*, I, 161:194.
[21] *Ibid.*, 188:232 and 255:429.
[22] *Ibid.*, 211:270.
[23] *Ibid.*, 254:428. Osier: a species of willow.

1466 are all renewals of earlier leases and this, together with the trend evident in later tacks, suggests that a significant proportion were, if not the same, likely to be related by marriage or descent.

The fundamental difference that the leases describe is in the Abbey's explicit acknowledgement of the role played by the tenants in the development and farming of the grange. Entrusted by the Abbey with the responsibility of farming land in the long-term, the tenants were able to invest in their own future and profit. That they were successful is demonstrated by the fact that a significant number of these tenants, not all of them large, were in a position to find the money and purchase at short notice the feu of their lands when these were sold by the Abbey. By such means a large proportion of Carse Grange was retained in the possession of its occupant farmers and did not all pass into the hands of non-resident landowners.[25]

Carse Grange demonstrates how instances of commercial and in essence 'modern', farm units were created in the Carse of Gowrie much earlier than is considered general throughout Lowland Scotland for such holdings. It demonstrates the readiness and ability of the indigenous tenantry to take on the role of 'improver' when in a commercial environment and within an estate structure that offered incentive, security and a degree of independence. The legacy left by the progressive and commercial approach of the monastic estate was still extant in the middle years of the seventeenth century. The model of substantial holdings farmed by families with a continuity of tenancy was to be found on a number of lay estates in the locality.

The inheritance of knowledge and expertise built up over the centuries was no less important. As noted in the previous chapter, descendents of many of the tenants who were able to purchase the feu of their holdings in the 1550s were to be found farming as small owner-occupiers, or 'bonnet lairds', on the same ground a hundred years later, long after the monastic estate itself had ceased to exist.

In Scotland the modernising of lay estates in any sustained manner had to await the ending of feudalism and its replacement by a culture of commerce that was fuelled

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[24] *Ibid.*, II, 203 and 104:105.
[25] *Ibid*, 77-107.

by an expanding economy and the need and desire of landowners to derive profit from their lands. On the Abbey lands of Carse Grange, relatively free of feudal influences from a much earlier date, the creation of 'modern' commercial holdings was more advanced.

3.5 Estate Structure – farm size and the number and nature of tenant holdings

In order to assess the level of organisational development and the changes that were taking place within the Carse of Gowrie in the period *circa.* 1605-1707, this chapter will examine the structure of estates in terms of farm size and the number and nature of tenant holdings. The data used has been gleaned, for the most part, from extant estate rentals and account books. The practice, general in the seventeenth century, of assessing and recording the rent payable on cultivated ground in terms of kind and on pasture in terms of money, enables a remarkably detailed picture to be constructed.[1]

Judicial rentals have survived in respect of five estates: from the Barony of Errol for the years 1634 and 1688, from Inchleslie (Inchmartine) for 1650 and 1674, from Fingask for 1676, 1696 and 1716, from Kinnaird for 1698 and 1716, and from Glencarse with Paunshill for 1698. Information similar in nature to that contained in the rentals is extant for the Inchleslie estate *c.*1692 and has also been extracted from the account books of Castle Lyon for the years 1671, 1691 and 1705.[2] All record the names of the tenants holding land directly from the proprietor and details of the rent each was bound to pay. Most also give some indication of the location of each holding or of the 'toun' of which it was a part. (Summaries of these rentals are contained in Appendix 3.1.)

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[1] The manner in which rent on tenant holdings was levied and paid in the Carse of Gowrie in the early modern period is examined in Chapter 4.2 of this thesis: 'Rents, labour services and the internal economy of the estate'.

[2] Judicial rentals: a record of the rents payable on all the holdings on an estate, declared by the tenants before a legally constituted court. PKAC MS100/963 (Proprietor: The Earl of Errol); DCRAC TD86 (Proprietor: The Earl of Northesk); NAS GD26/5/246 (Proprietor: David Ogilvie, Lord Deskford); NAS GD26/5/250 (Proprietor: Earl of Leven); PKAC MS169/14/2/8 (Proprietors: Laurence Bruce and Sir David Threipland);PKAC MS97/2 (Proprietor: James Murray); NAS GD26/5/259 (Proprietor: Earl of Leven); NRA(S) 885, 64/1/1, 190/1/3 and 54/1/14 (Proprietors, Earl and Countess of Strathmore).

Taken together, the six estates provide a good general representation of the Carse of Gowrie in the period under review. The area they covered comprised land in the parishes of Errol, Inchture, Kilspindie, Kinfauns, Kinnaird and Longforgan and embraced the full spectrum of Carse of Gowrie soil types and terrain; included was the very best quality arable land, orchards, heavy carse-land clay and marsh, as well as brae land that rose from low, fertile slopes to rough pasture at an altitude of over 300 metres. The total valued rent of the six estates as listed in the 1696 cess rolls was in the region of £15,000.[3] This equates to just under a third (30%) of the total valued rent of the district. The estates consequently account for roughly that same proportion of its land area and agricultural production.

An important aspect in which the listed estates were not entirely characteristic of the district was that all were owned by proprietors whose landholdings within the Carse of Gowrie exceeded £3,000 in valued rent. No rental from a smaller 'independent' proprietor's estate is extant for this period. This is a not untypical example of the manner in which the records that have survived from the seventeenth century are weighted, disproportionately, towards the experience of the great estates.

The valued rents recorded by the cess books suggest that there was little, if any, significant change in the extent of Castle Lyon, Inchleslie, Fingask and Kinnaird in the periods covered by their respective rentals. Any changes made in the number and size of holdings from one rental to the next are, therefore, likely to demonstrate some degree of internal reorganisation, rather than being the result of the sale or purchase of land. There was a considerable difference, however, in the size of the Barony of Errol as encompassed by the rentals of 1634 and 1688. The 1634 rental was drawn up in connection with the sale of the barony by the Earl of Errol. The barony was subsequently purchased in 1637 by a consortium of local proprietors and the land divided between them. Inchmichael, for instance, a small estate within the original barony and extending to approximately eight ploughgates, was annexed by Patrick Kinnaird of Inchture.[4] The rental of 1688 comprised only the principal residence, village and land on which the original barony had centred. It

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[3] PKAC, CC1, *Cess Books.* The estate of Glencarse and Paunshill was part of a larger landholding; the exact valued rent cannot be isolated but was in excess of £1,000.
[4] NRA(S) 885, 28/10/6 (1638).

represented an estate half the size of that recorded in 1634 even though, with a valued rent in excess of £3,400, it was still very large.[5]

The rentals, supported by the surviving tacks from other estates in the Carse of Gowrie, indicate that in the period under review very few true joint tenancies remained.[6] On the Barony of Errol in 1634, out of a total of 130 holdings with arable land, only four were held jointly and each of these involved only two tenants. A rare example on Castle Lyon was the joint tack held in the 1670s by Johne Man, William Mackonachie and Robert Bower who possessed 'equally amongst them one Tack'.[7] The rent for this was, however, paid on an individual basis with no joint responsibility. In contrast, leases from the Earl of Strathmore's estates in Angus indicate that joint and multiple-tenancies were much more common on those lands.[8] Where there were incidences of joint-tenancies, such as in the case of Thomas and George Cock on the Fingask estate, and James and Patrick Murray on Leyes, these involved immediate family members.[9]

It is less easy to ascertain the incidence of multiple tenancies. Tacks for the Carse of Gowrie *c.*1650-1707 have not survived in large numbers but from the evidence that is available (including the poll tax return for the small estate of Seaside), it is suggested that for the large farms, especially, single tenancies were the norm. The rigs of cultivated land that made up the holdings in many of the farm touns, however, are likely to have intermingled even though the possessions themselves were usually let as single units with the land of each designated and measured individually.

Where pasture rather than arable land dominated, there were some differences in the nature of tenancies. As found by I. D. Whyte in Aberdeenshire, a definite relationship is suggested between the orientation of the economy towards arable or pastoral farming and farm structure.[10] On the estate of Inchleslie in 1650 no joint tenancies were evident on those holdings that were predominantly arable; but two

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[5] PKAC, CC1, *Cess Books*.
[6] See, for example: NAS GD316/2, Murie (1683), Seaside (1688); SAUL, MS36220/421, Hay of Leyes (1697); PKAC B59 38/1/3, Kinfauns (1672).
[7] NRA(S) 885, 190/1/14.
[8] NRA(S) 885, 27/9 and 160/9.
[9] PKAC MS169/14/2/8, (1668). SAUL, MS36220/421, (1697).
[10] Whyte, *Agriculture & Society*, 142.

substantial areas of the estate were pasture and the different type of farming involved a rather different system of tenure. While each tenant had his or her own designated area or areas of arable ground to cultivate, pasture was common to the farm toun. The livestock ran together while grazing and were looked after by one herdsman on behalf of the tenants.[11] The rent for the common pasture was set according to the total number of livestock that it could carry and then divided proportionately on the basis of the number and type of animals grazed by each tenant.

On the marsh pasture of the low carse-land of Inchleslie, there was one principal tenant and a number of lesser tenants in each of the touns of Myreside, Craigdallie, Ballindean, Inchleslie and Balgay. The largest single grass park on Balgay was let between five tenants who paid 'amongst them all of muny £125 6s 8d'.[12] The rental records the duty payable by the individual tenants. This ranged from £90 in the case of the principal tenant, Patrick Oglvay, down to £2 13s 4d for the grazing of a cow and calf each by Patrick Moncur and Andrew Roberson.

On the hill pasture, one tenant leased the whole of Sunniehall and another Woodburnhead, while Blacklaw was in the hands of the laird. Pitmiddle, however, was let between 17 tenants. The money rent and any grain rent payable by the tenants of this toun was recorded individually against each, but a note on the rental states that 'there is payt be theis persons that possese the aikers be west the buren of Pitmidiele among them all of linning: 18 ells'.[13] This implies an element of joint-tenure, the origins of which lay in the communal herding of livestock on unfenced ground, that is not present for the arable holdings. It is also something that was disappearing by the later seventeenth century, even where common pasture was concerned. The clause regarding the joint payment of linen rent is not included in the 1674 rental for Inchleslie; neither does the 1692 rental indicate the continuance of this aspect of joint-tenancy.

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[11] In 1647 Edmund Jackson, in Pitmiddle, was fined ten shillings by the session 'for striking the common hird on the Sabbath'. D. R. Perry, 'Pitmiddle Village', in *Pitmiddle Village and Elcho Nunnery* (Perthshire Society of Natural Science, 1988), 20.
[12] NAS GD26/5/248.
[13] *Ibid.*

Only in the 1634 rental for the Barony of Errol and the account books of Castle Lyon were the areas of holdings given. The largest holdings on both these estates were recorded in terms of ploughgates or oxgates; smallholdings and pendicles were recorded in 'aikers'[14]. Numerous references in estate papers show that cultivated land was measured with a great deal of care in respect of the rent to be levied on it, particularly where changes or additions were being made to a holding.[15] The areas of holdings given in terms of 'aikers' can therefore be regarded as being reasonably accurate.

A ploughgate of land was, however, a far from exact measurement in terms of area. It was, rather, an expression of the amount of land that could be kept in cultivation by one team of eight oxen. The traditional size of a ploughgate is considered to be 104 Scots acres and an oxgate one eighth of that, i.e. thirteen Scots acres. But these can only be approximate measurements and, by definition, would vary according to the type of land under cultivation and, possibly, from district to district. I. D. Whyte suggests that a seventeenth century ploughgate might measure somewhere between eighty and one hundred Scots acres.[16]. The same team of oxen would be capable of ploughing a greater amount of level, light, sandy land in a season than it would of heavy, carse-land clay. In an average or dry year, however, a ploughgate of carse-land could be expected to yield more grain per acre than the light land. When assessing the size of a holding the level of its productivity is, therefore, as important a guide as is its actual dimensions.

The summaries of the rentals have been organised according to the size and productivity of the tenanted holdings. Where areas have not been recorded on the rentals, the holdings have been categorized according to the total amount of grain-rent levied on each. In the second half of the seventeenth century forty bolls per ploughgate was the amount of grain-rent levied on the largest holdings at Castle Lyon. Much of the ground on that estate was of a good standard, but not of the quality of the best land found on parts of Errol and Inchleslie.[17] Forty bolls of grain-rent can therefore be considered to be the approximate value of a ploughgate of cultivated land, of reasonable quality, on the low ground area of the Carse of

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[14] Aiker: one Scots acre, the equivalent of 1.26 statute acres or 0.51 hectares.
[15] See for instance: SAUL MS36220/156 and NRA(S) 885, 190/1/22.
[16] Whyte, *Agriculture and Society*, 144-5.
[17] See Chapters 2.2 and 2.7, above.

Gowrie in the second half of the seventeenth century. It must be noted, however, that the best land was assessed at a higher rate than this and smaller holdings of intensively cultivated ground paid, in proportion, very much more. In the tables, those holdings paying less than 20 bolls of grain-rent include not only the intensively farmed 'toun' acres of small tenants, but also a number of less-productive and out-lying farms, some of which incorporated large areas of pasture.

The proprietors of great estates may have dominated both the local economy and social order but the evidence shows that, at least in the Carse of Gowrie, they farmed only a very small proportion of land compared to that in the hands of their tenants. On the Barony of Errol in 1634 the mains extended to four ploughgates; three tenants occupied one ploughgate each, the fourth was divided into fifteen separate holdings, possessed by a total of ten tenants. The 1688 rental indicates that the mains land was also tenanted at that time. At Inchleslie in the second half of the seventeenth century, the mains land was farmed by the proprietor but, in terms of grain-rent, the value put on the land amounted to only 6% of the total for the estate in 1650, rising to 9% by 1692. On Fingask in 1676 the mains was tenanted, whereas in 1696 it was in the hands of the proprietor with the value of its assessed grain-rent amounting to 13% of the total for the estate. The value in 1716 is not recorded. The mains land on Castle Lyon extended to two ploughgates and was farmed in-hand. In terms of area, it represented 14% of the estate's cultivated land and, in terms of grain-rent, was valued at between 12% and 13% of the total for the estate. The whole of Glencarse with Paunshill was tenanted land. Other estates in the district for which relevant information is extant are Balthayock, Drimmie, Gasconhall, Hill, Kinfauns, Leyes, Mylnefield and Seaside.[18] Of these, only at Drimmie, Gasconhall, and Mylnefield was the mains land farmed in-hand.

In all, the available evidence indicates that the mains land of the great estates accounted for no more than 10% of the cultivated ground in the Carse of Gowrie in the later seventeenth century and only half of that (5%) was farmed in-hand by proprietors or their agents. This is an important statistic when the influence of

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[18] NLS MS3288/53, Miscellaneous papers relating to the Blairs of Balthayock (1705); PKAC, MS100/1087, (1712 and1713); PKAC, B59/38/6/30 (1690); NAS, GD316/2 (1683); PKAC, B59 38/1/3 (1706); SAUL, MS36220/873 (1694); NRA(S) 885, 198/2/3 (1693); NAS, GD316/2 (1688) and GD316/10 (1696).

landlords and their contribution to agricultural production in this period is being considered.

Many proprietors set out virtually all the cultivated land on their holdings to tenants, keeping in-hand only policies or small grass parks. There were a number of reasons for this. It provided a convenient alternative if the landowner had little interest in farming. Where a proprietor owned more than one estate and the principal residence lay elsewhere it was, again, often more convenient that the mains land of a lesser estate be put in the hands of a substantial tenant, some of whom also carried out the duties of factor. Such was the case of George Duncan, principal tenant on the Laird of Lundie's estate of Seaside and Auchmuir in the parish of Errol[19]. In common with other areas of Scotland, the high level of indebtedness in which some landowners found themselves necessitated the wadsetting of substantial portions of their estates.[20] Large tracts of the Barony of Errol, including the mains land, were wadset in the first half of the century, as was the whole of the Barony of Kinnaird when owned by the Earl of Newburgh before its purchase by Sir David Threipland.[21] The small estate of Gourdiehill was another that was entirely held in wadset.[22] Mains land was very often the best land on the estate and therefore the most valuable and most easily mortgaged.

Table 3.4, below, contains a comparative analysis of the holdings paying grain-rent on the six estates for which information is extant. It reveals that on those estates where land was farmed in-hand this contributed, at most, 13% of the total grain-rent. On Castle Lyon, for example, between 1660 and 1707,[23] much of what had been the original mains there was converted into parkland and a new mains farm created by bringing up a large area of outfield land to infield standard and re-setting some tenanted land. This transformation was carried out in stages over many years but throughout, the amount of land cultivated by the Earl's own servants was kept to two ploughgates. Three tenanted holdings on the estate also extended to two ploughgates and a further three measured one ploughgate. The proportion of the

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[19] NAS, GD316/2.
[20] See Chapter 3.2, above.
[21] NRA(S) 885 28/10/6. PKAC, MS169/14/2/8 (1650), and CC1 *Cess Books* (1667); Macleuchin, *Rossie Priory 1900*, 15.
[22] NAS, GD316/1/6.
[23] NRA(S) 885, 190/1/22 and 198/2/3.

Table 3.4: ANALYSIS OF THE HOLDINGS ON VARIOUS CARSE OF GOWRIE ESTATES PAYING GRAIN RENT
(N.B. Figures are percentages of the total for the individual estate.)

Estate and Year of Rental	Mains land		Holdings of one plough or above, or paying grain rent of 40 bolls or above			Holdings paying 20-39 bolls in grain rent			Holdings paying 1-19 bolls in grain rent		
	Cultivated land	Grain rent	Holdings	Cultivated land	Grain rent	Holdings	Cultivated land	Grain rent	Holdings	Cultivated land	Grain rent
Castle Lyon 1671	14	12	11	64	52	7	10	11	82	12	25
Castle Lyon 1691	14	12	11	64	46	5	7	8	84	15	34
Castle Lyon 1705	14	13	13	64	47	4	7	6	83	15	34
Errol 1634			12	43	41	18	38	35	70	19	24
Errol 1688			16		46	17		27	67		27
Fingask 1676			12.5		44	12.5		22	75		34
Fingask 1696		13	11		36	11		17	78		34
Fingask 1716			8		41	8		17	84		42
Glencarse with Paunshill 1698			23		71	4		6	73		23
Inchleslie 1650		6	10		30	30		40	60		24
Inchleslie 1674		7	10		37	25		34	65		22
Inchleslie 1692		9	13		39	25		30	62		22
Kinnaird 1696			8		39	31		49	61		12
Kinnaird 1716			12		44	40		49	48		7
Mean	**14%**	**10%**	**12%**	**59%**	**44%**	**17%**	**16%**	**25%**	**71%**	**15%**	**26%**

estate's cultivated land farmed by the Earl was in the region of 14%; in contrast, the total encompassed by the six largest tenanted holdings amounted to 64%. These holdings also accounted for approximately 50% of the whole of the estate's grain-rent against a value on the mains land of 12%. On the other five estates included in the tables, tenanted holdings equivalent to one ploughgate or above in size contributed, on average, 45% of the total estate grain-rent.

In addition, an average of a further 17% of the tenanted holdings on the estates each paid between twenty and thirty-nine bolls in grain-rent; these equated to farms of between a half and one ploughgate. T. M. Devine suggests that for efficient working, 70 to 100 acres was considered to a be a minimum size for improved farms in the second half of the eighteenth century but, in terms of the fertility of the land, farming practices and economic conditions in place in the Carse of Gowrie between *c.*1650 and 1707, half a ploughgate was an economic unit.[24] On Castle Lyon, a 'husbandland' extending to half a ploughgate was regarded as being a more than viable farm. (This unit was referred to in the account books as 'one tack' and was the base for the letting of large farms.) In all, therefore, if the six estates examined are considered to be representative of the district, somewhere in the region of 70% of the cultivated land in the Carse of Gowrie appears to have been let in holdings judged, at the time, to be of a more than commercial size.

The summarised rentals also reveal, however, that 70% of tenants farmed holdings, the cultivated ground of which extended to no more than a few acres. These holdings contributed approximately one quarter of the total grain-rent of the six estates, but probably represented only 15% of the cultivated land. A number of these were farms that were predominantly pasture, but a large majority were smallholdings that were, on their own, of marginal viability. The nature of the farms, and the differing experiences of the tenants – both large and small - are examined in Chapter 3.6, below.

The sub-division of large farms through sub-letting does not appear to have been an extensive practice. The only extant poll tax return for the district (for the estate of Seaside in the parish of Errol) showed there to be four farms on that estate with a valued rent of £120 or above (each larger than half a ploughgate) and only two

small farms with valued rents of £40 and £20 respectively.[25] One further holding on the estate, Gourdiehill (valued rent £55), was wadset and the land farmed by the tenant of Seaside. A particularly detailed hearth tax return for Gasconhall, another small estate on brae land in Kilspindie parish, shows it to be divided between only three holdings: the mains farm, apparently farmed in-hand; a large tenanted farm at Over Durdie, and one sub-tenant - in Tewchet Ward.[26] These tax returns confirm the prevalence of relatively large arable holdings in the Carse of Gowrie even on estates considerably smaller than the six represented in Appendix 3.1.[27]

The commercial holdings that accounted for much of the district's cultivated land were too large to be worked by one tenant and his, or her, family. Full-time farm servants such as herdsmen and shepherds were engaged where there was year round work, but much of the work on arable farms was seasonal. Cottars supplied the additional labour needed to meet the demands of these critical and busy times. Called upon only when needed, cottars were allowed a small piece of land in lieu of wages; on this they could grow food for themselves and derive subsistence.

Evidence dating from the early part of the eighteenth century (*c.*1705-1728) lists the number of cottars found on one large farm, as well as giving an indication of the levels of the economic and social structure that prevailed.[28] Andrew Sim succeeded his father, William, in a nine-year tack granted in 1709 for the tenancy of the Mains of Balthayock in the parish of Kinfauns. He paid in rent forty bolls of bear, forty bolls of oatmeal and 600 merks money, plus the grazing and keeping of a number of horses and other livestock belonging to the laird.[29] This puts the farm at approximately two ploughgates of cultivated land in size, plus pasture. In addition, numbers of capons, poultry and chickens were payable to the laird by Andrew Sim's cottars. In return for their service to Sim, a total of fifteen cottars were listed as holding possessions extending to a house and yard and between a half and two acres of land. A further three sub-tenants are listed as holding possessions under

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[24] Devine, *Transformation,* 111-2.
[25] NAS, GD316/10 (*c.*1696).
[26] See Table 3.7, below. PKAC, B59/38/6/30 (1690).
[27] The tax returns for Seaside and Gasconhall are set out in Tables 3.6 and 3.7, respectively, below.
[28] NLS MS3288/53, Miscellaneous papers relating to the Blairs of Balthayock.
[29] Planting and the enclosing of policies were carried out at Balthayock sometime after 1709 but before 1728.

three of the cottars; no details of the extent or nature of these are included and none paid rent directly to Andrew Sim or to the laird. Their inclusion in the rental, however, shows this to have been a regularised arrangement. Table 3.5, below, lists the cottars on the farm and the amount of land each possessed, together with their sub-tenants.

Table 3.5: Cottars and Sub-tenants on the Mains of Balthayock, Kinfauns, *c.* 1718.[30] (Tenant: Andrew Sim.)

Cottars	Terms and extent of possession	Sub-tenants
Robert Dow	A house, yard and half an acre of land, for which he pays service to Andrew Sim, excepting only six poultry fowls and six chickens which he is liable to the Laird	
James Giuld	A house and yard and one acre of land (conditions as for Robert Dow)	Oliver Sim, possesses under James Giuld
John Oudney	A house, yard and two acres of land (conditions as for Robert Dow)	William Roberts, possesses under John Oudney
William Crichton	A house, yard and one acre of land (conditions as for Robert Dow)	
Donald More	A house, yard and one acre of land (conditions as for Robert Dow)	James Nairn (absent but represented by Catherine Wilkie, his wife), possesses under Donald More
James Ramsay	A house, yard and one acre of land for which he pays service to Andrew Sim, excepting only nine poultry fowls and nine chickens which he is liable to the Laird	
John Howy	A house, yard and one acre of land (conditions as for James Ramsay)	
David Thomson	A house, yard and one acre of land (conditions as for James Ramsay)	
James Donald	A house, yard and one acre of land (conditions as for James Ramsay)	
William Hay	A house, yard and one acre of land (conditions as for James Ramsay)	
David Cuthbert	A house, yard and one acre of land (conditions as for James Ramsay)	
James Trumbell	A house, yard and one acre of land (conditions as for James Ramsay)	
Patrick Pyet	A house, yard and one acre of land (conditions as for James Ramsay)	
John Taylor	A house, yard and one acre of land (conditions as for James Ramsay)	
William Scobie	A house, yard and one acre of land (conditions as for James Ramsay)	

[30] NLS MS3288/53.

The Mains of Balthayock was a particularly large farm, with many cottars, located at the centre of a large estate. The tax returns for Seaside and Gasconhall, mentioned above, give a view of the proportions to be found, in total, on lesser estates. Only poll tax records from the 1690s and, in some cases the hearth tax dating from 1691, give up any substantial statistical information on the lower (though not for the lowest) orders of Scottish society in the seventeenth century. Poll tax records, although very far from being either complete or perfect, still provide the best available information on the structure of the Scottish rural population in this period.[31]

The poll tax return for Seaside, Auchmuir and Gourdiehill, belonging to Alexander Duncan, Laird of Lundie, when used in conjunction with the less detailed hearth tax return and information from some contemporary estate papers, provides important evidence with regard to the social and economic structure of the estate as well as some pointers to the nature of the local economy.[32] A summary of the poll list is at Table 3.6, below. Column 1 gives the valued rent of each holding according to the document as compiled for the purposes of the poll, together with their approximate size. Calculating from the declared valued rent for the estate of £641 14s 8d. and the average valued rent for the parish, the estate probably extended to approximately 180 hectares.[33] The valued rent of the individual farms within the estate is also listed. Together, these four farms accounted for 83% of the estate.

Although not large in terms of area, Seaside, Auchmuir and Gourdiehill formed a rich and prosperous estate. The possession at Seaside, tenanted and wadset by George Duncan, was probably less than a ploughgate in size, but it paid a grain-rent of fifty-four bolls including wheat and pease - well above the mean for Carse of

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[31] Those aged under sixteen or who were too poor to pay poll tax were, in general, not listed. Hearth tax lists tended to focus on the number of paid hearths; the heads of individual households were not always named. For discussions on the use of poll and hearth tax records see: Tyson, 'The Population of Aberdeenshire'; I. D. Whyte and K. A. Whyte, 'Some Aspects of the Structure of Rural Society in Seventeenth-Century Lowland Scotland', in T. M. Devine and D. Dickson (eds.), *Ireland and Scotland 1600-1850* (Edinburgh, 1983), 33-39; M. Flinn, (et al), *Scottish Population History* (Cambridge, 1977), 51-7.

[32] NAS GD316/10. Neither the Matthew of Gourdiehill Papers nor papers pertaining to Alexander Duncan of Lundie held by Dundee Record and Archive Centre include any rentals for the estate which, if used together with the Poll and Hearth Tax lists, would have presented a rounder picture of the population and social structure of the estate.

[33] See Chapter 2.5, above.

Gowrie land.[34] In addition, a further 400 merks per annum were payable on an orchard there. Gourdiehill, a small estate held in wadset and later feued from the Laird of Lundie by Andrew Duncan and farmed by his brother, George Duncan of Seaside, also boasted a large orchard.[35]

The overall prosperity of the estate is confirmed in the record of hearth tax; this lists a total of twenty-nine hearths against sixteen named householders on the lands owned by the Laird of Lundie in the parish of Errol.[36] The proportion of hearths to households at over 1.8 is a figure well in excess of the average for the district of 1.4.[37] It is also above the 1.5 per household that existed in the mineral rich and relatively industrialised environs of the Forth and approaches the average of two hearths per household to be found in urban centres.[38] (It should be noted that the extant hearth tax return gives no indication of the number if any, of poor on the estate, of any empty houses, nor of the number of kilns that might be included in the totals.) At an average household size for the Carse of Gowrie of five persons, a total population for the estate in the region of eighty is suggested.[39]

Five years separate the extant poll and hearth tax lists for the estate; also, the focus of the information contained in them was different, as was the way in which it was recorded.[40] They do not, therefore, afford direct comparison; however, a high proportion of the names are the same and each suggests a similar size and structure to the population. The poll tax record suggests a minimum of fifteen households against the sixteen on the hearth tax return.[41]

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[34] NAS, GD316/2 (1688).
[35] NAS, GD316/10 (1695).
[36] Reproduced in Mitchell, *Monumental Inscriptions,* 204.
[37] See Chapter 2.6, above.
[38] Adamson, *West Lothian Hearth Tax,* 1-5.
[39] See Chapter 2.6, above.
[40] The hearth tax lists for the parish of Errol declare for each estate the names of householders whose hearth tax has been paid. The numbers of paid hearths are, however, totalled line-by-line and are not always specific to individual householders.
[41] In his assessment of the 1695 poll list for Aberdeenshire, Tyson suggests that there were significant omissions from many parish returns. Tyson, 'The Population of Aberdeenshire', 116-117.

Table 3.6. List of the persons paying poll money on the estate of Seaside, Auchmuir and Gourdiehill including the valued rent of each possession [*c.*1696].[42]

Valued Rent of Possession (£Scots)	Pollable persons	Status	Poll money £	s	d
£166.74 [Corresponding to 47 hectares]	George Duncan	Wadsetter	1	19	2½
	Barbara Robertson	Wife	0	6	0
	Francis Duncan	Son	0	6	0
	Elizabeth Duncan	Daughter	0	6	0
	Alison Duncan	Daughter	0	6	0
	Patrick Anton	Servant	0	16	3
	James Syme	Servant	0	15	0¼
	Thomas Gardiner	Servant	0	6	0
	Andrew Duncan	Servant	0	6	0
	Helen Grimman	Servant	0	11	7½
	Barbara Mathou	Servant	0	10	2
	Margaret Davidson	Servant	0	10	5
£120 [Corresponding to 34 hectares]	Thomas Carrie	Tenant	1	10	0
	Giles Playfair	Wife	0	6	0
	Thomas Carrie	Son	0	6	0
£120 [Corresponding to 34 hectares]	Barbara Mathou	Tenant	1	10	0
	Colen Mathou	Servant	0	6	0
	Robert High	Servant	0	9	4
	Cristian Gallow	Servant	0	6	0
£120 [Corresponding to 34 hectares]	David Will	Tenant	1	10	0
£40 [Corresponding to 11 hectares]	Henry Syme	Tenant	0	14	0
£20 [Corresponding to 6 hectares]	James Playfair	Tenant	0	12	0
	Margaret Michisone	Wife	0	6	0
£55 [Corresponding to 15 hectares]	Andrew Duncan	Wadsetter	0	17	0
	Joan Greenhill	Wife	0	6	8
	Alexander Cant	Servant	0	10	0
	James Henderson	Cottar	0	12	0
	Euphan Robertsone	Wife			
	James Fife	Cottar	0	12	0
	Janet Montcur	Wife			
	Thomas Jackson	Cottar	0	12	0
	Isobel Jackson	Wife			
	Patrick Gray	Cottar and shoemaker	0	18	0
	Mary Gardiner	Wife			
	Gilbert Gardiner	Cottar	0	12	0
	Janet Adam	Wife			
	William Hostler	Cottar	0	12	0
	Isobel Carry	Wife			
	James Gowen	Cottar	0	12	0
	Agnes Spense	Wife			
	Charles Gardiner	Cottar and horner	0	18	0
	Margaret Dicks	Wife			

[42] NAS, GD316/10 (*c.*1696). The original document also records the wages of each servant and the poll money paid.

Those designated as cottars on the list of pollable persons represent approximately half of the households on the estate. Two cottars are recorded as having trades, one a horner and one a shoemaker, each of which pay an additional levy above the basic rate of 6s 0d poll per person. This put them in a similar category, for poll tax purposes, to the tenant James Playfair who possessed land with a valued rent of £20 and also to the higher - though not highest - paid servants. (The list gives no indication as to the work category of servants - whether they were domestic, agricultural or engaged in an administrative capacity.)

A particularly detailed note relating to the number of hearths 'given up' by Thomas Blair of Balthayock, the landlord of Gasconhall in the parish of Kilspindie, paints a similar picture in terms of the occupational structure of the lower ranks of rural society in the Carse of Gowrie.[43] The occupation and number of hearths of each householder is listed. A summary is at Table 3.7, below.

Gasconhall and Over Durdie are situated on the Braes of the Carse; some of the land is quite exposed and the farms had a greater concentration on pasture compared to the lower and more fertile ground of Seaside, Auchmuir and Gourdiehill.[44] (It is not possible from the *Cess Rolls,* to separate the valued rent of Gasconhall from other lands held by the Blairs and so allow an assessment of the size of the farms.)

The six cottars formed the largest single group on the estate and, taken together with the three tradesmen, account for more than half the recorded households; a similar proportion as that indicated by the poll list for Seaside, Auchmuir and Gourdiehill. The available evidence indicates that the proportion of the population in the Carse of Gowrie identified on the lists as cottars was comfortably in line with the 'top end' of cottar numbers found by I. D. and K. A. Whyte in their analysis of Scottish poll tax returns.[45]

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[43] PKAC B59/38/6/30 (24th October, 1690).
[44] Over Durdie in 1716 had a rent of 24 bolls of victual in respect of its arable ground and also 565 merks money for pasture, plus 15 bolls of meal payable to the minister of Kilspindie. NLS, MS 3288/53.
[45] Whyte and Whyte, 'Some Aspects of the Structure of Rural Society in Seventeenth-Century Lowland Scotland', 37. See also, Poll Tax Tabulations and Returns in Devine, *Transformation*, 167-193.

Table 3.7: Summary of the hearths declared for the estate of Gasconhall in Kilspindie Parish, the property of Thomas Blair, 'Young Balthayock' on 24th October, 1690.[46]

Householder/Possession	Occupation	No. of Hearths	No. of Kilns
Towerhouse of Gasconhall	Landowner	5	
Giels Blair	-	1	
Robert Spence, Over Durdie	Tenant	3	1
William Chrystie in Over Durdie	Noltherd [herdsman]	1	
Patrick Jamesone in Over Durdie	Shepherd	1	
William Nicoll in Tewchet Ward	Sub-tenant	1	1
Donald McKerles	Cottar	1	
John Kynman	Cottar	1	
John Steil	Cottar	1	
Thomas McKommie	Cottar	1	
William Craige	Weaver	1	
Laurence Sharp	Tailor	1	
Old Laurence Sharp	Cottar	1	
Patrick Gray	Weaver	1	
Thomas Menzies	Cottar	1	
Poor Duncan	Living upon the charity of the parish	1	
P[oor] Marr	Living upon the charity of the parish	1	
Durdie – one new 'laigh' [low] house, still under construction	-	-	
Total households: 17		**23**	**2**

The holdings of the tenant smallholders and cottars vastly outnumber those of the large commercial farms, but not so in terms of area. It has been suggested above that tenant smallholdings accounted for approximately 15% of cultivated land in the Carse of Gowrie. The pendicles of the cottars are unlikely to have totalled more than a further 382 hectares (750 Scots acres) – i.e. one Scots acre for half the total number of households in the district.[47] (The example from Balthayock in Table 3.5 suggests than one Scots acre was the norm for a cottar possession. Detailed information with regard to the size of cottar possessions in the period under review is extremely rare, but evidence from other areas supports this figure.[48])

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[46] PKAC B59/38/6/30 (24th October, 1690).
[47] Calculations from the Hearth Tax returns suggest the total number of households in the Carse of Gowrie to be in the region of 1,437. (See Chapter 2.6, above.)
[48] See for instance, Devine, *Transformation*, 12.

From the data contained in the summarized rentals, it is possible to extrapolate a number of interesting statistics including rough estimates of grain production in the Carse of Gowrie and the proportion of land under cultivation in the 1690s. As previously stated the six estates in terms of their valued rent equated to 30% of the land area (disregarding water, salt marsh and foreshore) of the eight complete parishes in the district. The total victual rent for the estates, according to their rentals dating from the 1690s, was 4,463 bolls. Total production at an estimated minimum yield of 3:1 would therefore be in the region of 13,400 bolls and for the district as a whole (÷ 30%): 44,666 bolls or approximately 2,800 chalders at Perthshire measures.[49]

It has been calculated that forty bolls was the probable average ferme levied on a ploughgate of land in the district; smallholdings, however, had their rent levied at between two and three times the rate of the large farms.[50] The fourteen ploughgates of the estate of Castle Lyon (including the mains land and the smallholdings) paid a total rent of 810 bolls of victual: on average, fifty-eight bolls per ploughgate. Both the large estates of Errol and Inchleslie are likely to have been more productive and Kinnaird equally good; the Fingask estate, in line with much of the brae land in other parishes, would be less so. If the mean ferme per ploughgate is estimated at fifty-eight bolls, the number of ploughgates under cultivation for the six estates would be, approximately, seventy-seven (4,463 bolls ÷ 58). The total land area of the six estates was approximately 4,850 hectares. Taking a ploughgate of land to be the equivalent of fifty-three hectares (104 Scots acres), the area under cultivation would be expected to be somewhere in the region of 4,081 hectares (77 ploughgates x 53 hectares). This amounts to more than 80% of their total land area.

While the above is acknowledged to be an extremely rough estimate (and it must be remembered that of each ploughgate probably only between a half and two-thirds was actually under the plough in any one year), it underlines the importance, the extent and, in relative terms, the intensity of arable production in the Carse of

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[49] A boll was a measure by volume rather than weight, of dry goods such as grain, meal and fruit. There was variation in size from region to region and also according to the nature of the goods.
[50] See Chapter 3.6, below.

Gowrie in the later seventeenth century.[51] Although much of the low carse-land was ill-draining clay, the system of rig and furrow encouraged natural drainage and probably more of this type of land was under cultivation than was implied by commentators in the later eighteenth century.[52] This degree of cultivation supports the comment of the English traveller, J. Macky, who journeyed through the Carse of Gowrie shortly after the Union and described it as 'all a perfect garden'.[53] It also substantiates Helen, Countess of Strathmore's remark in 1693, that there was very little open ground left at Castle Lyon where she could practice her golf.[54]

The rentals that allow comparison over time show an increasing polarisation towards farms of a ploughgate and above on the one hand and to smallholdings on the other, with a decrease in the medium sized possessions. On Inchleslie between 1650 and 1692 there was a reduction of twenty-four in the total number of holdings (29%). Most of those lost were small pasture possessions absorbed by larger neighbours. In regard to arable land, the largest farms increased in size at the expense of the medium sized possessions, with only a slight reduction in arable small holdings. The proportion of the estate's grain rent paid by farms paying forty bolls of victual and above (including the mains farm) rose from a total of 36% to 48%. This coincided, by 1692, with an increase in the ferme levied by the estate against a reduction in its money rent, suggesting that land formerly pasture had been brought under cultivation.

While there was a small contraction in the number of holdings on the Fingask estate in all categories between 1676 and 1716, in terms of grain rent, the proportion paid by the medium sized farms suffered the largest fall - from 22% to 17%. The proportion paid by the large farms dropped slightly but remained above 40%; that paid by the smallholdings, however, increased substantially from 34% to 42% of the whole.

On Castle Lyon, the changes that can be identified in the table rentals are supported by much more detailed records than have survived for the other estates. It is

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[51] See Chapters 3.6 and 4.4, below.
[52] See for instance: Donaldson, *General View of the Agriculture of the Carse of Gowrie,* 11.
[53] J. Macky, *A Journey Through Scotland* (London, 1723), 142-6.
[54] NRA(S) 885, 198/2/3. Letter from the Countess at Castle Lyon to her husband, Earl Patrick.

known that considerable improvements were carried out on Castle Lyon in the second half of the seventeenth century.[55] The creation of policies and planting of woods necessitated some reorganisation of holdings; a number of the largest farms, particularly the East Mains, lost land in the process. The total area occupied by farms of one ploughgate and above remained approximately the same, but was divided between six holdings instead of five. The number of medium sized farms was reduced from three to two. Both the number and the extent of the smallholdings increased, together with a proportionate rise in the ferme they paid.

The total acreage of land farmed by the smallholders and aikermen of Castle Lyon rose by 60%, from 125 Scots acres in 1671 to 200 in 1691.[56] The average size of their holdings increased by almost a third, from 4.3 to 5.7 Scots acres.[57] The total number of smallholders on the estate also rose during this period by six, from twenty-nine to thirty-five. The source of the increased acreage farmed by the tenant smallholders was a combination of outfield land brought up to infield standard and the taking in of previously uncultivated carse-land. These improvements were brought about by the initiative and effort of farm servants and others among the lower orders, exploiting areas of poorly drained and unused ground, as well as by the landowner.[58]

The evidence provided by the table rentals of the estates that can be compared over time, shows similar levels of change in farm size and numbers – even if the nature of these sometimes differed. The changes and improvements brought about on Castle Lyon in the second half of the seventeenth century are known to have been very considerable; it is possible that those on the other estates were no less. The population in the district at the beginning of the 1690s was high and probably higher than at the time of Webster's survey in 1755.[59] This would have increased the need to bring land under cultivation. The low grain prices that prevailed brought pressure to increase the efficiency of the large farms, and economies of scale would have encouraged the trend to increase their size. The proportionately

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[55] See Chapters 4.4 and 4.5, below.
[56] Aikermen: smallholders on the 'toun' land of Longforgan.
[57] NRA(S) 885, 190/1/23
[58] See Chapter 3.6, below.
[59] See Chapter 2.6, above.

higher rents payable on smallholdings also promoted the establishment of these by landlords.

T. M. Devine argues that the 'host' of smallholdings to be found in this period indicated that a peasant social structure prevailed in many regions of the Lowlands.[60] (The definition he uses of a peasant society is that of one in which production was dominated by farmers dependent largely on family labour and giving the main priority to the cultivation of the subsistence food crop, but perhaps with a subsidiary cash crop for the market.[61]) This, however, is not an appropriate description of the social structure of the Carse of Gowrie in the second half of the seventeenth century. The agriculture of the district was dominated by large commercial holdings but with a substantial – and vibrant - sector of small farms and holdings operating alongside them.

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[60] Devine, *Transformation,* 16.
[61] T. Shanin, *Peasants and Peasant Society* (London, 1971), 15. (Quoted in Devine, *Transformation,* 16.)

APPENDIX TO CHAPTER 3.5

Holding size, tenancies, tenant numbers and rent paid on selected Carse of Gowrie estates, 1634 - 1716

3.5.1	Castle Lyon	1671
3.5.2	Castle Lyon	1691
3.5.3	Castle Lyon	1705
3.5.4	Errol	1634
3.5.5	Errol	1688
3.5.6	Fingask	1676
3.5.7	Fingask	1696
3.5.8	Fingask	1716
3.5.9	Glencarse with Paunshill	1698
3.5.10	Inchleslie	1650
3.5.11	Inchleslie	1674
3.5.12	Inchleslie	1692
3.5.13	Kinnaird	1696
3.5.14	Kinnaird	1716

3.5.1 CASTLE LYON, 1671 – Holding Size, Tenancies, Tenant Numbers and Rent Paid

Source: NRA(S) 885 Papers of the Earl of Strathmore 64/1/1

Total number of tenants: 47.

Size of Holding (In terms of ploughs or grain rent)	Number of holdings	No. of Holdings Paying Grain Rent	Approx. % of Estate's Cultivated Land	Total Grain Rent Paid (Bolls)	% of Total Estate Grain Rent	Approx. Rent Paid per Acre (Bolls)	No. of Holdings Paying Money Rent	Total Money Rent (£Scots)	% of Total Estate Money Rent	No. of Holdings Paying Kane Fowl	Total Kane Fowl Paid	% of Total Estate Kane Fowl
2 ploughs	4	4	57%	380	46%	0.46	1	33	5%	4	212	33%
1-2 ploughs	1	1	7%	46	6%	0.44	0	0	0	1	24	4%
20-39 bolls	3	3	10%	90	11%	0.6	0	0	0	3	48	7%
1-19 bolls	37	37	12%	205	25%	1.4	5	192	31%	33	366	56%
Mains land (2 ploughs)			14%	100	12%	0.48		400	64%			
Totals	**45**	**45**	**14 ploughs (approx.)**	**821**	**100%**	**0.56**	**6**	**625**	**100%**	**41**	**650**	**100%**

3.5.2: CASTLE LYON 1691 – Holding Size, Tenancies, Tenant Numbers and Rent Paid

Source: NRA(S) 885 Papers of the Earl of Strathmore 190/1/23

Total number of tenants: 57.

Size of Holding (In terms of ploughs or grain rent)	Number of Holdings	No. of Holdings Paying Grain Rent	Approx. % of Estate's Cultivated Land	Total Grain Rent Paid (Bolls)	% of Total Estate Grain Rent	Approx. Rent Paid per Acre (Bolls)	No. of Holdings Paying Money Rent	Total Money Rent (£Scots)	% of Total Estate Money Rent	No. of Holdings Paying Kane Fowl	Total Kane Fowl Paid	% of Total Estate Kane Fowl
2 ploughs	3	3	43%	248	31%	0.4	1	14	2%	3	144	22%
1–2 ploughs	3	3	21%	123	15%	0.4	1	7	1%	3	52	8%
20-39 bolls	3	3	7%	68	8%	0.5	1	13	2%	2	43	7%
1-19 bolls	46	46	15%	271	34%	1.4	15	322	40%	38	380	59%
Mains land (2 ploughs)			14%	100	12%	0.48		400	50%			
Other	2	0	0	0	0	0	2	38	5%	3	25	4%
Totals	**57**	**55**	**14 ploughs (approx.)**	**810**	**100%**	**0.56**	**20**	**794**	**100%**	**49**	**644**	**100%**

3.5.3: CASTLE LYON 1705 – Holding Size, Tenancies, Tenant Numbers and Rent Paid

Source: NRA(S) 885 Papers of the Earl of Strathmore 54/1/14

Total number of tenants: 49.

Size of Holding (In terms of ploughs or grain rent)	Number. of Holdings	No. of Holdings Paying Grain Rent	Approx. % of Estate's Cultivated Land	Total Grain Rent Paid (Bolls)	% of Total Estate Grain Rent	Approx. Rent Paid per Acre (Bolls)	No. of Holdings Paying Money Rent	Total Money Rent (£Scots)	% of Total Estate Money Rent	No. of Holdings Paying Kane Fowl	Total Kane Fowl Paid	% of Total Estate Kane Fowl
2 ploughs	3	3	43%	239	31%	0.38	0	0	0	3	144	23%
1–2 ploughs	3	3	21%	133	16%	0.43	0	0	0	3	60	9%
20-39 bolls	2	2	7%	46	6%	0.45	1	3	0.3%	2	42	7%
1-19 bolls	39	39	15%	261	34%	1.2	18	343	39%	35	373	59%
Other	2	0	0	0	0	0	2	137	16%	2	16	2%
Mains land (2 ploughs)			14%	100	13%	0.48	0	400	45%			
Totals	**49**	**47**	**14 ploughs (approx.)**	**779**	**100%**	**0.54**	**21**	**883**	**100%**	**45**	**635**	**100%**

3.5.4 BARONY OF ERROL, 1634 – Holding Size, Tenancies, Tenant Numbers and Rent Paid

Source: PAC MS100/963

Size of Holding (In terms of ploughs, or grain rent)	Total No. of Holdings	Joint Tenancies	No. of Tenants Paying Grain Rent	Approx. % of Estate's Cultivated Land	Total Grain Rent (Bolls)	% of Total Estate Grain Rent	Approx. Rent Paid per Acre (Bolls)	No. of Holdings Paying Money Rent	Total Money Rent (£Scots)	% of Total Money Rent	No. of Holdings Paying Linen Rent	Total Linen Rent Paid (ells)	% of Total Estate Linen Rent (ells)	No. of Holdings Paying Kane Fowl	Total Kane Fowl Paid	% of Total Estate Kane Fowl
One plough and above	7	0	6	22%	366	19%	0.54	2	16	1%	2	32	7%	7	157	11%
0.5 – one plough	22	0	22	50%	809	41%	0.5	10	141	12%	17	218	43%	22	513	37%
Under half a plough but paying 20 bolls or more	12	0	12	17%	355	18%	0.8	9	23	2%	10	117	23%	12	210	15%
1-19 bolls	89	4	69	11%	462	22%	1.4	13	41	3	13	55	11%	89	407	30%
Other	54	0	0	0	0	0	0	24	997	82%	14	82	16%	21	95	7%
Totals	**184**	**4**	**109**	**100%**	**1992**	**100%**	**0.64**	**58**	**1218**	**100%**	**56**	**504**	**100%**	**151**	**1382**	**100%**

3.5.5 BARONY OF ERROL, 1688 – Holding Size, Tenancies, Tenant Numbers and Rent Paid

Source: DARC TD86

Size of Holding (In terms of grain rent paid)	Total Number of Holdings	Total Number of Tenants	% of Total Number of Holdings	Total Grain Rent Paid (Bolls)	% of Total Estate Grain Rent	Number of Holdings Paying Money Rent	Total Money Rent Paid (£Scots)	% of Total Money Rent	Number of Holdings Paying Kane Fowl	Total Kane Fowl Paid	% of Total Estate Kane Fowl
40 bolls plus	9	8	13%	502	46%	8	£26	3%	8	155	32%
20-39 bolls	10	10	14%	289	27%	8	£56	6%	5	76	16%
1-19 bolls	39	38	54%	294	27%	36	£437	49%	27	193	40%
No grain rent paid	14	14	19%	0	0	14	£369	42%	10	60	12%
Totals	**72**	**70**	**100%**	**1085**	**100%**	**66**	**£888**	**100%**	**50**	**484**	**100%**

3.5.6 FINGASK, 1676 – Holding Size, Tenant Numbers and Rent Paid

Source: PAC MS169/14/2/8

Size of Holding (In terms of grain rent paid)	Number of Holdings	% of Total Number of Holdings Paying Grain Rent	Total Grain Rent Paid (Bolls)	% of Total Estate Grain Rent	No. of Holdings Paying Money Rent	Total Money Rent Paid (£Scots)	% of Total Money Rent	No. of Holdings Paying Rent in Yarn	Total Linen Rent Paid (hairs)	% of Total Estate Yarn Rent	No. of Holdings Paying Kane Fowl	Total Kane Fowl Paid	% of Total Estate Kane Fowl
40 Bolls plus	4	9%	226	44%	1	6	2%	3	39	7%	4	138	21%
20-39 Bolls	4	9%	114	22%	2	23	6%	4	93	18%	4	101	15%
10-19 Bolls	8	18%	99	19%	5	81	22%	8	93	18%	8	166	25%
1-9 Bolls	16	36%	80	15%	14	193	52%	16	228	44%	16	234	36%
No Grain Rent paid	12	28%	0	0	11	68	18%	6	66	13%	3	18	3%
Totals	**44**	**100%**	**519**		**33**	**371**	**100%**	**37**	**519**	**100%**	**35**	**654**	**100%**

3.5.7 FINGASK, 1696 – Holding Size, Tenant Numbers and Rent Paid

Source: PAC MS169/14/2/8

Size of Holding (In terms of grain rent paid)	Number of Holdings	% of Total Number of Holdings Paying Grain Rent	Total Grain Rent Paid (Bolls)	% of Total Estate Grain Rent	No. of Holdings Paying Money Rent	Total Money Rent Paid (£Scots)	% of Total Money Rent	No. of Holdings Paying Rent in Yarn	Total Linen Rent Paid (hairs)	% of Total Estate Yarn Rent	No. of Holdings Paying Kane Fowl	Total Kane Fowl Paid	% of Total Estate Kane Fowl
40 Bolls plus	3	7%	146	36%	0	0	0	2	42	8%	3	144	20%
20-39 Bolls	3	7%	70	17%	3	35	9%	3	90	16%	3	92	13%
10-19 Bolls	7	16%	83	20%	6	76	19%	7	78	14%	7	119	17%
1-9 Bolls	15	35%	58	14%	14	190	49%	14	182	32%	14	198	28%
No Grain Rent paid	14	33%	0	0	12	91	23%	16	132	24%	10	117	16%
Mains	1	2%	54	13%	0	0	0	1	33	6%	1	42	6%
Totals	**43**	**100%**	**411**	**100%**	**35**	**392**		**43**	**557**	**100%**	**38**	**712**	**100%**

3.5.8 FINGASK, 1716 – Holding Size, Tenant Numbers and Rent Paid

Source: PAC MS169/14/2/8

Size of Holding (In terms of grain rent paid)	Number of Holdings	% of Total Number of Holdings Paying Grain Rent	Total Grain Rent Paid (Bolls)	% of Total Estate Grain Rent	No. of Holdings Paying Money Rent	Total Money Rent Paid (£Scots)	% of Total Money Rent	No. of Holdings Paying Rent in Yarn	Total Linen Rent Paid (hairs)	% of Total Estate Yarn Rent	No. of Holdings Paying Kane Fowl	Total Kane Fowl Paid	% of Total Estate Kane Fowl
40 Bolls plus	2	5%	136	41%	1	6	1%	1	12	3%	1	42	8%
20-39 Bolls	2	5%	57	17%	2	31	7%	2	36	7%	2	38	7%
10-19 Bolls	6	15%	85	26%	3	109	24%	6	84	17%	6	117	22%
1-9 Bolls	15	36%	52	16%	15	192	42%	15	207	42%	15	176	34%
No Grain Rent paid	16	39%	0	0	13	116	26%	15	153	31%	13	152	29%
Mains		-	-	-	-	-	-	-	-	-	-	-	-
Totals	**41**	**100%**	**330**		**34**	**454**	**100%**	**39**	**492**	**100%**	**37**	**525**	**100%**

3.5.9 GLENCARSE WITH PAUNSHILL, 1698 – Holding Size, Tenant Numbers and Rent Paid

Source: PAC MS97/2

Size of holding (In terms of grain rent paid)	Total Number of Holdings	Total Number of Tenants	% of Total Number of Holdings Paying Grain Rent	Total Grain Rent Paid (Bolls)	% of Total Estate Grain Rent	No. of Holdings Paying Money Rent	Total Money Rent Paid (£Scots)	% of Total Estate Money Rent	No. of Holdings Paying Kane Fowl	Total Kane Fowl Paid	% of Total Estate Kane Fowl
40 bolls plus	6	6	23%	352.5	71%	4	57	9%	6	138	44%
20-39 bolls	1	1	4%	27.5	6%	0	0	0	1	12	4%
1-19 bolls	19	19	73%	114.5	23%	7	45	7%	15	138	44%
Pasture only	1	1	0	0	0	1	520	84%	1	24	8%
Totals	**27**	**27**	**100%**	**494.5**	**100%**	**12**	**622**	**100%**	**23**	**312**	**100%**

3.5.10 INCHLESLIE, 1650 – Holding Size, Tenancies, Tenant Numbers and Rent Paid

Source: NAS GD26/5/248

Size of Holding (In terms of grain rent paid)	No. of Holdings Paying Grain Rent	% of Total Holdings Paying Grain Rent	Total Grain Rent paid (Bolls)	% of Total Estate Grain Rent	No. of Holdings Paying Money Rent	Total Money Rent Paid (£Scots)	% of Total Money Rent	No. of Holdings Paying Rent in Linen	Total Linen Rent Paid (ells)	% of Total Estate Linen Rent	No. of Holdings Paying Kane Fowl	Total Kane Fowl Paid (Incl. Geese)	% of Total Estate Kane Fowl
40 bolls plus	5	10%	281	30%	4	107	5%	4	31	13%	5	243	26%
20-39 bolls	14	30%	384	40%	10	236	11%	6	20	8%	13	418	44%
1-19 bolls	29	60%	227	24%	21	605	28%	23	152	61%	17	285	30%
Pasture only	0	0	0	0	34	966	45%	7	44	18%	0	0	0
Mains land	0	0	58	6%	0	230	11%	0	0	0	0	0	0
Totals	**48**	**100%**	**950**	**100%**	**69**	**2144**	**100%**	**40**	**247**	**100%**	**35**	**946**	**100%**
Teind			65									0	

3.5.11 INCHLESLIE, 1674 – Holding Size, Tenancies, Tenant Numbers and Rent Paid

Source: NAS GD26/5/250

Size of Holding (In terms of grain rent paid)	No. of Holdings	No. of Tenants Paying Grain Rent	% of Total Tenants Paying Grain Rent	Total Grain Rent (Bolls)	% of Total Estate Grain Rent	No. of Holdings Paying Money Rent	Total Money Rent Paid (£Scots)	% of Total Money Rent	No. of Holdings Paying Rent in Linen	Total Linen Rent Paid (ells)	% of Total Estate Linen Rent	No. of Holdings Paying Kane Fowl	Total Kane Fowl Paid (No geese recorded)	% of Total Estate Kane Fowl
40 bolls plus	5	4	8%	338	37%	2	175	9%	5	58	37%	5	236	33%
20-39 bolls	13	12	25%	315	34%	7	447	22%	4	10	6%	12	300	41%
1-19 bolls	34	32	67%	200	22%	25	898	44%	20	77	50%	17	191	26%
Pasture only	14	0	0	0	0	14	307	15%	0	0	0	0	0	0
Mains land	5	0	0	62	7%	5	204	10%	3	11	7%	0	0	0
Totals	**71**	**48**	**100%**	**915**	**100%**	**53**	**2031**	**100%**	**32**	**156**	**100%**	**34**	**727**	**100%**

3.5.12 INCHLESLIE, 1692 – Holding Size, Tenancies, Tenant Numbers and Rent Paid

Source: NAS GD26/5/259

Size of Holding (In terms of grain rent paid)	No. of Holdings	No. of Holdings Paying Grain Rent	% of Total Number of Tenants Paying Grain Rent	Total Grain Rent Paid (Bolls)	% of Total Estate Grain Rent	No. of Holdings Paying Money Rent	Total Money Rent Paid (£Scots)	% of Total Estate Money Rent	No. of Holdings Paying Rent in Linen	Total linen rent paid (ells)	% of Total Estate Linen Rent	No. of Holdings Paying Kane Fowl	Total Kane Fowl Paid (Incl. Geese)	% of Total Estate Kane Fowl
40 bolls plus	6	6	13%	386	39%	5	202	13%	6	73	36%	6	338	46%
20-39 bolls	11	11	25%	302	30%	5	312	20%	5	28	14%	9	237	32%
1-19 bolls	28	28	62%	223	22%	28	605	38%	19	95	47%	16	165	22%
Pasture only	10	0	0	0	0	10	309	20%	0	0	0	0	0	0
Mains land	3	1	0	85	9%	3	147	9%	1	6	3%	0	0	0
Totals	**58**	**46**	**100%**	**996**	**100%**	**51**	**1575**	**100%**	**31**	**202**	**100%**	**31**	**740**	**100%**

3.5.13: KINNAIRD, 1696 – Holding Size, Tenant Numbers and Rent Paid

Source: PAC MS169/14/2/8

Size of Holding (In terms of grain rent paid)	Number of Holdings	% of Total Number of Holdings Paying Grain Rent	Total Grain Rent Paid (Bolls)	% of Total Estate Grain Rent	No. of Holdings Paying Money Rent	Total Money Rent Paid (£Scots)	% of Total Money Rent	No. of Holdings Paying Rent in Linen	No. of Holdings Paying Kane Fowl	Total Kane Fowl Paid	% of Total Estate Kane Fowl
40 Bolls plus	3	6%	258	39%	3	115	12%	0	0	0	0
20-39 Bolls	11	20%	329	49%	10	245	27%	0	6	168	84%
10-19 Bolls	2	4%	28	4%	2	44	5%	0	0	0	0
1-9 Bolls	20	37%	51	8%	10	120	13%	0	0	0	0
No Grain Rent paid	18	33%	0	0	18	396	43%	0	2	31	16%
Mains	-	-	-	-	-	-	-	-	-	-	-
Totals	**54**	**100%**	**666**	**100%**	**43**	**920**	**100%**	**0**	**8**	**199**	**100%**

3.5.14: KINNAIRD, 1716 – Holding Size, Tenant Numbers and Rent Paid

Source: PAC MS169/14/2/8

Size of Holding (In terms of grain rent paid)	Number of Holdings	% of Total Number of Holdings Paying Grain Rent	Total Grain Rent Paid (Bolls)	% of Total Estate Grain Rent	No. of Holdings Paying Money Rent	Total Money Rent Paid (£Scots)	% of Total Money Rent	No. of Holdings Paying Rent in Linen	No. of Holdings Paying Kane Fowl	Total Kane Fowl Paid	% of Total Estate Kane Fowl
40 Bolls plus	3	7%	246	44%	3	123	13%	0	0	0	0
20-39 Bolls	10	24%	279	49%	9	254	27%	0	5	132	81%
10-19 Bolls	1	3%	16	3%	1	28	3%	0	0	0	0
1-9 Bolls	11	26%	25	4%	10	132	14%	0	0	0	0
No Grain Rent paid	17	40%	0	0	17	400	43%	0	2	30	19%
Mains	-	-	-	-	-	-	-	-	-	-	-
Totals	**42**	**100%**	**566**	**100%**	**40**	**937**	**100%**	**0**	**7**	**162**	**100%**

3.6 The Tenant Experience

The role and importance of the tenant class within the economy and society of the Carse of Gowrie *c.* 1650-1707 cannot be over stressed.[1] In terms of heads of households their numbers were probably little below that of the cottar class. As demonstrated in the preceding chapter they were responsible for 80% of the district's agricultural production. As payers of rent and employers of labour, the economy of the district rested on their success. They ranked high within rural society. Almost all had security of tenure, with rights to the land they farmed and the terms of their tenancies enshrined in law - all the available evidence suggests that written leases were, overwhelmingly, the norm for Carse of Gowrie tenants holding land directly from proprietors.

As a group they encompassed a very wide socio-economic range. At the lowest end were those who laboured and subsisted on a possession no larger or more viable than that of a cottar; at the highest were entrepreneurs farming more than one large holding, holding land in wadset, loaning money to their landlords, married to the daughters of lesser gentry, with sons at university and abroad, brothers and uncles who were merchant burgesses, and themselves employed in the management of the estate of the local laird. The large majority of tenants were to be found somewhere between these two extremes; all were represented in the Carse of Gowrie.

This chapter will explore the differing experiences of the husbandmen farming large holdings and of the smallholders. Particular attention will be paid to the economic circumstances of each and their status within the social hierarchy of the estate. The degree to which there was continuity of tenure within the district will be assessed, together with the extent to which there was movement within the ranks of tenants and the possibility for smallholders to increase the size of their possessions or even to join the ranks of those farming a ploughgate or more.

The tenants who farmed the holdings of one ploughgate or above may not have been numerous but they made, arguably, the largest single contribution to the agricultural economy of the district. Their investment in their businesses was considerable. A substantial amount of capital was needed to equip and run large farms. In 1693, the various livestock required to work and stock one of the principal farms on the Leyes estate were valued at £777 13s 4d.[2] (The price of fifteen oxen with their plough gear was assessed at £345; four horses for harrowing and general work, three cows, young stock and various replacement animals came to a further £432.)

On farms of a ploughgate or more, the size of the enterprise ensured a large turnover and the potential for economies of scale, even though for the majority of years in the period under review, grain prices were low. The papers of very few Carse of Gowrie tenant farmers survive from this period and none (so far found) that include details of yields and crop production costs. The figures that follow are based on the records of the Mains of Castle Lyon, farmed in-hand by the Earl of Strathmore, and are not from a tenanted holding. They are useful here only as a pointer to the gross income that might be expected from a large arable farm in the Carse of Gowrie.

The annual total yield of wheat, bere, oats and pease produced on the two ploughgates of the Mains of Castle Lyon averaged, for the ten years 1681-1690, a total of 377 bolls.[3] The price struck by the Perth fiars for those grains in the same years averaged £5 5s per boll.[4] At these prices[5] and level of production the annual gross income from the crop would have come to £1,979. The total amount of seed corn sown each year averaged 113 bolls. Most was home-grown, but some was also bought in.[6] If it is assumed that the best quality grain would be used for seed and a supplement added to its price, the total annual cost of this might be in the

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[1] Devine, *Transformation,* 5.
[2] SAUL, MS36220/748, Hay of Leyes Muniments.
[3] See Chapter 4.5, below.
[4] Gibson and Smout, *Prices, food and wages*, 84-129.
[5] Fiars prices tended to reflect the level of wholesale rates rather than farm-gate or retail prices. A full discussion of the system of county fiars can be found in Gibson and Smout, *Prices, food and wages*, 66-77.
[6] Records include note of seed wheat being bought in from the Lothians and England in 1687 and pease seed from a tenant, in 1693. (NRA(S) 885, 64/1.)

region of £700.[7] In the 1680s, the tenants farming two ploughgates on Castle Lyon paid a total rent of eighty-one bolls of grain and meal, forty-eight kane fowl valued at 5s 0d each and £14 in tax.[8] At £5 5s per boll, this comes to a total of £451; added to this were various services and carriage duties, all of which were paid in kind. No tiend was payable on these particular farms. On these figures the gross margin in an average year - before labour, feed and maintenance costs – might be in the region of £823.

Another, although very crude, way of assessing possible margins is from the total yield ratio of the crops. A yield of grain over seed of 3:1 has been regarded as the traditional break-even return on the crops of 'pre-Improvement' Scottish agriculture.[9] The annual yield ratio on the Mains of Castle Lyon over the ten years 1681-1690 was 3.31:1.[10] This would have left an average annual 'profit' of 35 bolls of grain, the equivalent of £183.75 at the price of £5 5s per boll.

The above figures are drawn from a ten-year average. The yield of 3.31:1 and the level of profit do not immediately impress, but in good years returns could be substantial. In 1690 for instance, when the crops on the Mains of Castle Lyon yielded 425 bolls at a respectable average of 3.6:1, but a general shortage in grain brought the average Perth fiars up to £7 18s 6d per boll, the gross margin for the year (using the same formula as above) could have approached £2,000. The yield of 3.6:1 would have left a 'profit' of 70 bolls of grain worth £554 8s at £7 18s 6d per boll.

Yields varied considerably, as did the type of crops that could be grown on different farms. And, no matter how high prices might rise in years of shortage, if there was no surplus to sell, no advantage could be taken. An example of the extent to which crops and their value might vary from farm to farm, even in the same locality, can be seen in a comparison of the 1695 cereal crop harvested at Dronlaw on the Auchterhouse estate and on the Mains of Castle Lyon; both farms of two ploughgates belonging to the Earl of Strathmore. At Dronlaw, the crop there was

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[7] On one Castle Lyon smallholding in 1680, ferme bere was priced at £4 13s 4d. per boll and seed bere charged at £5 per boll. The Perth fiars price in that year was £4 per boll. (NRA(S) 885, 190/1/14.
[8] NRA(S) 885, 190/1/23.
[9] Whyte, *Agriculture and Society*, 73.

measured by the corncaster to be forty-three bolls, three firlots and two pecks of bere, and ninety-six bolls, one firlot, two pecks of oats - in all 140 bolls, one firlot. The Perth fiars prices in that year were for bere £6 13s 4d per boll, and for oats £5 6s 8d, giving the crop a total value of £806. In the same year, five miles away, at less altitude, with better land and in a more sheltered location the Mains of Castle Lyon produced a total of 300 bolls and two firlots; this was made up of twenty-seven bolls of wheat, eighty-three bolls of oats, sixty-seven bolls two firlots of bere, and 123 bolls of pease.[11] By Castle Lyon standards this was a very poor return, but in terms of grain produced it was more than twice that of Dronlaw. In addition, the higher prices commanded by wheat and pease brought its financial value (at Perth fiars prices) to £1,969.

The wide range of returns that were likely to be found, even in the same district of Scotland, emphasises the difficulty that the historian faces in trying to assess what might represent a realistic mean.

The running costs of large farms were considerable. An example of the wages and expenses incurred in harvesting the corn on a farm of two ploughgates is contained in the following account. David Lyon, factor on Castle Lyon, was required in 1695 to take in hand the harvest at Dronlaw. It was a year of famine and the tenant, John Chrystie, had failed.

Account of what money David Lyon payed out when John Chrystie's corns were shorn:

For 6 bolls meall at £14 per boll	*84 0 0*
More for cheese	*5 10 0*
For hard fishes	*18 0 0*
For ale	*36 0 0*
For fyre to make ther meal	*1 10 0*
For eight fied [fee'd] *shearers*	*56 0 0*
For drying 24 bolls of oats	*2 8 0*
	203 8 0
more to be added which I payed to the corncaster	*14 0 6*
	£217 8 6d

and this is besides the expenses I was at for buying cartes, cornwaines and other necessaries for loading of the corns.[12]

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[10] See Appendix to Chapter 4.4, below.
[11] The contrasting fates of tenants on the Auchterhouse and Castle Lyon estates during the famine years of the later 1690s is discussed in Chapter 2.7, above. For crop yields on the Mains of Castle Lyon, see Chapter 4.4, below.
[12] NRA(S) 885, 50/3.

On a tenanted farm in more normal years, considerable savings on the expenses listed above might be expected. The six bolls of meal for the shearers would come from the farm's own store, at cost, rather than have to be bought in at 'famine' prices. On Castle Lyon, the tenants of the two-ploughgate farms brewed their own ale, which again would be supplied at cost rather than bought in at retail prices. The shearers would not be fee'd labourers, but would come from among the farm's own cottars and be paid only their maintenance. The capital costs of carts and cornwains and the oxen to pull them would be written off over several years. In all, the expense of harvesting would quite likely be less than half that faced in the above instance by David Lyon.

The crop yields obtained on the Mains of Castle Lyon and the circumstances of their production are discussed in full in Chapter 4.5, below. There is no way of knowing to what extent they may be representative of even neighbouring farms. Their value here lies in the fact that they correspond to the entire production of the four principal crops grown commercially on the farm on both the infield and the outfield and over an extended period of years. The yields indicate, however, that the level of returns, even on large farms, was not in general high, but there was profit to be had and in good years this could be substantial.

There would also have been opportunities to maximise returns. For instance, as seen in the example of the Dronlaw harvest expenses above, there is evidence for a trade in grain at prices substantially above those struck by the fiars court.[13] Value could also be added to the bere crop by its brewing and sale as ale. Arable farms in the Carse of Gowrie ran flocks of sheep to aid soil fertility and there would be income from the sale of wethers. There is also much evidence for the growing of cash crops such as flax and mustard.[14] Overall, however, the level of returns was likely to have militated against substantial capital investment by tenants in their farms and land, unless they were in possession of long and secure leases. On the other hand, they were sufficient to encourage efficiency and also, perhaps, innovation.

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[13] See also Chapter 4.2, below, for a discussion of the level of victual prices current within Carse of Gowrie estates.
[14] PKAC, MS100/963, SAUL MS36220/873.

The level of their investment and the amount of rent they paid, made the tenants of the large farms the most important individuals within an estate outside the immediate circle of the proprietor. It gave them a great deal of authority, made them difficult to replace and put them in a position of strength in dealings with their landlords. The estate accounts show that the tenants of the large farms on Castle Lyon were more often in credit than debt to their landlord, the Earl of Strathmore.[15] But, as the cases of John Chrystie on Dronlaw (above) and Thomas Davie, below, demonstrate, failure among the tenants of large farms was not unknown and when it did occur it had serious implications for the estate, in terms of both financial and social stability.

John Chrystie's bankruptcy left the Earl of Strathmore with unpaid rent, high harvest costs and an empty farm in the time of famine. The case of Thomas Davie, tenant until 1688 of the largest holding on Castle Lyon, illustrates the efforts made by a landlord to maintain the position of one of his principal tenants. In 1660, Davie was in debt to the estate to the tune of 1000 merks - an amount that over the years he failed to reduce. Throughout the 1670s and 1680s Patrick, Earl of Strathmore, made considerable changes at Castle Lyon that included taking in and enclosing some of the land previously rented by Davie. Davie complained to the Earl that his [Davie's] position and status were being undermined by rumour among the lesser tenants that the reason part of his land had been taken was that the Earl was working to get him out of his farm because of the seriousness of his debts. Although complaints (in the Earl's own hand) about the amount of money owed appear regularly in the estate accounts, Davie was issued a new life-time tack together with a written statement that

> ... being desirious to secure the said Thomas Davie in what remains, which is by much the great part for his encouragement and to obviate the malevolous reports of lying men and women as if it ever intended to wear him out of the whole by pieces.[16]

Davie's debts were not only to the Earl, but included bonds drawn on a tenant from another estate.[17] He was forced, eventually, to sell up in 1688 and remove from the East Mains, at which time he was given the tenancy of a smallholding in the toun of

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[15] See for instance NRA(S) 885, 190/1/23 (1691).
[16] NRA(S) 885, 141/11 (1683).
[17] James Jobson of Fowlis, NRA(S) 885, 30/1/5,6 and 8 (1688-90).

Longforgan.[18] This was, again, a face-saving gesture for Davie on the part of the Earl and illustrates the importance attached to upholding the status quo within the social hierarchy of the estate. It also indicates the status that was attached to the possession of a tenancy held directly from a proprietor, even in the case of smallholdings, which as will be shown below were in themselves of marginal economic viability.

One small collection of papers dating from the seventeenth century that relate to a family of substantial tenant farmers based in the parish of Errol is extant. The particular records that pertain to the period on which this thesis focuses are limited, for the most part, to a number of tacks and leases and financial transactions. Although there are very large gaps in the picture they present, and the exact blood relationship between various members is not always clear, the papers give an insight into the background of the family and the nature, scale and development of some of their farming, and business dealings. The web of family and marriage relationships and the importance of these connections are very apparent. A short case study is included here in order to illustrate the scope of the activities engaged in by the tenants of large farms, their role within the local community, and their social and economic standing.[19] It should be noted that it was the family's retention of the small estate of Gourdiehill over many generations that was an important element in the survival of the records. The size of the family and their success may make them remarkable among their peers. Evidence from the first half of the eighteenth century, however, suggests that other substantial farming families operated in a similar way and enjoyed comparable or even better fortune over several generations.[20]

From the last quarter of the sixteenth century and into the third quarter of the seventeenth century, succeeding representatives of the Duncan family held, first from the Earls of Errol and subsequently from the Earl of Northesk, the important position of tenant of the Mott of Errol, the principal orchard of the Barony of Errol

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[18] NRA(S) 885, 190/1/20.
[19] The documents relating to this case study are to be found in: NAS, GD316/2, 6, 7, 8 and 10 (Matthew of Gourdiehill), unless otherwise stated.
[20] The most prominent were the Hunter family whose family papers are to be seen at: PKAC, MS97. Others include the Blairs, Hills and Kinnears, references to whom appear regularly in estate papers from the district, particularly those of the Hunters of Glencarse, and with whom there was a good deal of intermarriage.

and worth in excess of £300 in rent annually. From this base various members of the family went on to take the tenancy of other orchards and farms or become merchants. One such merchant was Alexander Duncan, baillie and sometime provost of Dundee (already mentioned in this thesis), who was able to purchase the estate of Lundie in Forfarshire and feu the lands of Seaside, Auchmuir and Gourdiehill in the parish of Errol. Other family members included Andrew Duncan who, in the 1680s, was an apothecary burgess and George Duncan a merchant burgess, both of Perth. Francis Duncan in 1709 was apprenticed to William Read, merchant in Dundee.

James Duncan enjoyed the title 'Mr', suggesting a university education. He was married to Marjorie Hay, who had connections to one of the several families of Hay who owned estates in the district; in 1670 they were awarded the life-rent of the mill, mill-lands and orchard of Murie with permission (or obligation) to keep a hostelry 'for receipt of strangers and have sufficient bedding and entertainment to that effect'. The living these generated was obviously good as over the years James was able to award sums of 500 merks to his two sons at age twenty-one and similar amounts in bonds of provision to at least two nephews and a niece. In February 1700, £333 6s 8d was given to the Kirk Session of Errol in consideration of the 'exigencies of the many poor in the parish and the great duty incumbent for their support'.

The wadset of the small estate and orchard of Gourdiehill had been in the hands of the family probably from the first half of the seventeenth century. Alexander Duncan of Lundie purchased its feu, while Peter Duncan retained the wadset. George Duncan first rented a farm from Lord Kinnaird at Inchmichael, before taking the tenancy and later the wadset of Seaside, which he farmed with the neighbouring lands of Gourdiehill and Aithmuir. Other members of the family held land and rented a variety of farms and orchards throughout the second half of the seventeenth century. These holdings included a few acres in the toun of Errol, the orchard at Muirhouses, the farm and orchard of Watriebutts and the large farm of Maynes of Hill. On this last, Robert Duncan signed a tack to create a farm on

unimproved land and bring it up to a standard able to grow wheat. George Duncan regularly acted as an appriser on behalf of the estate of Leyes.[21]

Marriage contracts show the daughters of the family to have married the sons of substantial tenant farmers and professionals. In 1680 Isobel Duncan is recorded as being the relict of John Powrie, sometime tenant of the Maynes of Errol.[22] In 1710 Alison Duncan of Gourdiehill married David Anthon, eldest son of Gilbert, bailie in Errol.

The contribution made to the economic health and social stability of their local communities and to the estates whose land they possessed and farmed, made principal tenants like the Duncans a privileged group. Their commercial activities and ambition were, in general, encouraged rather than compromised. The circumstances and the position of the small farmers were, however, very different. Holdings of only a few acres were not sufficient in themselves to generate much more than a subsistence. Although many tenant smallholders were people of substance, a significant proportion of these derived income from sources other than the agricultural production of their possessions.[23]

The contrast in the experience of the tenants of large commercial units and that of the many smallholders reveals the dichotomy that existed within the estate structure - one part progressive, the other restrictive. It demonstrates how a rural economy that for its time was strong and commercialised, could also contain a 'peasant' base. The majority of tenant smallholders were trapped in and exploited by an economic and social system that denied them the opportunity to compete on even terms in the market place. The structure and the culture of even relatively progressive estates were still, at the beginning of the eighteenth century, permeated by the legacy and traditions of a feudal past. The circumstances of the small farmers expose the tensions that existed between the forces of continuity and those of commercialisation and modernisation.

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[21] Appriser: valuer. SAUL, MS36220/748 (1693); MS36220/1660 (1708).
[22] Relict: widow.
[23] The scale of participation by tenant smallholders in a variety of trades and manufactures is examined in Chapter 4.6, below.

An important area that demonstrates the different conditions that existed for the tenant smallholders was in the much higher level of rent they paid, per acre, than the principal tenants. Records that included the size of many of the tenanted holdings on Castle Lyon in the later seventeenth century and on the Barony of Errol in 1634, are extant.[24] The total grain-rent of the Barony of Errol was levied on approximately 240 oxgates of cultivated land and amounted to 1,992 bolls; this comprised 523.44 bolls of wheat, 765.42 bolls of bear, 677.57 bolls of meal and 25.57 bolls listed as 'sojourne corne'.[25] Taking an oxgate as being approximately thirteen Scots acres of land, the overall average rent amounted to 0.64 bolls per acre.[26] The actual level of the rent levied varied very considerably and was reliant on two principal factors – the quality of the land and the size of the holding. The highest rates were, as to be expected, found on those holdings situated on the best quality land.[27] The value per boll of the grain payable by these holdings was also the highest, with as much as a third of the total ferme being levied in wheat. Of greater note, however, was the degree of difference that the size of the holding made to the level of rent, with smallholdings paying rent at more than three times the rate of those possessions that extended to one ploughgate or more.

The largest tenant on the Barony of Errol was the Laird of Leys who held twelve oxgates of infield land in the East End of the Kirkton of Errol.[28] The grain-rent paid for this possession totalled ninety-seven bolls (made up of thirty bolls of wheat, thirty-six bolls of bear and thirty bolls of meal) plus forty-eight kane fowl. No money rent was levied on this land. Per acre, the approximate rent paid was 0.62 bolls of victual and one third of a fowl. This holding contained some of the best land in the barony and its rent was levied at a higher rate than on most other large holdings, including the three principal possessions within the neighbouring Maynes of Errol (each of which extended to one ploughgate) and for which their tenants paid fifty-five bolls in grain and between ten and fifteen kane fowl. The highest rent paid on holdings of substantial size within the Barony of Errol was just under one boll of victual and one kane fowl per acre; this was levied on two possessions, each

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[24] See Chapter 3.4, above.
[25] The nature of the 'sojourne corne' was largely unspecified, but did include mustard.
[26] Whyte, *Agriculture and Society*, 267.
[27] *Soil Survey of Scotland, Land Capability for Agriculture*, Sheet 5, Eastern Scotland (1983).
[28] It is not known whether at this time the land was farmed in-hand by the Laird of Leys or sub-let.

extending to six oxgates and also situated in the East End of the Kirkton of Errol. This rent was, however, well below that levied on the smallholdings.

On the Maynes and in the East and West Ends of the Kirkton of Errol, tenant smallholders were in possession of a total of forty holdings, each of which paid a rent of less than twenty bolls per annum in victual rent. The large majority of these extended to no more than three acres. These holdings were contiguous with and, in the Kirkton, possibly intermixed with, their larger neighbours. On the best of these smallholdings, rent was levied at the rate of two bolls of victual per acre (one third in wheat, one third in bear and one third in meal), plus kane fowl at the rate of one per acre.

At Castle Lyon in Longforgan parish, a comparable structure with regard to the levels of rent, to that found on the Barony of Errol in 1634, was in place throughout the second half of the century. In the 1690s, six holdings extended to one ploughgate or more.[29] The inherent quality of most of the Castle Lyon land is good, but graded below that of Errol.[30] This lesser quality was reflected in the lower rent paid by the large tenants of Castle Lyon. On average, the tenants of two ploughgate holdings paid eighty-four bolls of victual (twenty-four bolls of wheat, twenty-six bolls of bear, eight bolls of oats and twenty-six bolls of meal) and forty-eight kane fowl. (I. D. and K. A. Whyte found that at Panmure in Angus, two ploughgates of land represented upwards of 100 Scots acres under crop in any year.[31] The crop returns for the Mains of Castle Lyon support this figure.[32]) This suggests a rent on the cultivated land of the principal tenants at Castle Lyon to have been, at most, 0.84 bolls of grain and half a kane fowl per acre. The proportion of their ground that was left uncultivated, possibly as much again (made up of pasture and the outfield land resting and used for grazing) was effectively rent free.

The rent paid by the aikermen of the 'toun' of Longforgan and the smallholders of the Mains of Castle Lyon was - in line with the Barony of Errol – at a much higher

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[29] NRA(S) 885, 54/1/8 and 190/1/23.
[30] *Soil Survey of Scotland, Land Capability for Agriculture,* Sheet 5, Eastern Scotland (1983).
[31] Whyte and Whyte, 'Debt and Credit', 72.
[32] See Chapter 4.4, below.

rate than that of their larger neighbours.[33] Aikermen in the toun paid, per acre, one boll of wheat and three kane fowl (these were specified as two capons and one 'poultry'; capons being valued at 10s 0d each and 'poultry' at 5s 0d.) The aikermen were also obliged to supply two 'hooks', or pay £4 in lieu for each of these, or supply one stone of lint - these options being at the choice of the Laird, not the tenant.[34] The £8 payable in lieu of the 'hooks' equated, roughly, to the price of two bolls of meal and made it a very substantial supplement to the rents of holdings whose size averaged only 3.5 Scots acres.[35]

In addition to this, tiend was paid on all toun land; sheaves were drawn on the rigs by ground officers and carried to the Earl's cornyard before the aikermen were allowed to take in their own crop. (If a storm came before the birlaymen did their work, there was nothing the smallholder could do other than endure the loss.) The mains land carried no tiend, nor an obligation to supply shearers, but smallholders with land there paid rent at the higher rate of two bolls (one of wheat and one of bear) and three kane fowl, per acre.

At Castle Lyon, all of the holdings in the 'toun' of Longforgan were subject to the same level of rent, even though they were recognised as being very uneven in quality[36]. On the whole, however, the land was unlikely to have been significantly less good than that of the large farms. In the tradition of 'toun' land it was also all infield and under constant cropping. The aikermen and smallholders were charged additional rent on any parcels of outfield they possessed, whether or not they were under cultivation, at the rate of one boll of either oats or meal for each acre. Similarly, grazing on the meadows was charged at the rate of £5 per half acre; this gave it a rental value roughly equivalent to that of the cultivated ground possessed by the aikermen.[37] The rent per acre paid by the tenant smallholders was considerably more than twice that paid by the tenants of the large holdings.

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[33] The collective term used on the Castle Lyon estate to describe those tenants who farmed the 'toun' land of Longforgan.
[34] Hooks: shearers with sickles to work on the Mains' harvest.
[35] Gibson and Smout, *Prices, food and wages*, 95.
[36] NRA(S) 885, 129/9.
[37] The average price of a boll of grain during this period, as set by the Perth Fiars, was in the region of £5 per boll.

The differential between the charges levied on the greater tenants and the smallholders also extended to their taxes. Landowners were obliged to pay tax in the form of cess levied according to the valued rent of their property.[38] This, in general, was passed on to the tenants and charged at different rates according to the nature of the tenancy and the quality of the land. The aikermen in the toun of Longforgan paid at the highest rate of ten shillings per acre, although a number farming the poorest land were given some reduction. Tenants farming land outside the toun paid at the considerably lower rate of 3s 4d for each boll of their victual rent or £5 of money rent.[39] This would result in those smallholders who possessed a few acres of mains land paying at the rate of 6s 8d per acre, compared with an approximate rate of 1s 8d per acre for those farming large holdings. Following the Education Act of 1696, all Castle Lyon tenants were also required to pay a proportionate contribution towards the maintenance of the school in Longforgan. This was levied at the rate of one shilling per acre on smallholdings but at only £1 per ploughgate of land in respect of the large tenants.[40]

Although details of the acreages of tenant possessions have not been found for any other estates in the Carse of Gowrie, the amounts of kane fowl levied on the holdings indicate that comparable rent structures were in place.[41] Kane payments were traditionally scaled in strict proportion to the arable assessment of the land.[42] On all but one estate (Kinnaird), the rentals reveal that - as in the case of Errol and Castle Lyon - the holdings with the largest victual rents paid, in percentage terms, a comparatively small amount of kane fowl, whereas arable holdings paying less than twenty bolls of victual rent paid a far greater proportion.[43] This suggests that the arable land on the smallholdings was assessed at a much higher rate than that of the largest holdings. On Fingask, Glencarse with Paunshill and Inchleslie, the overall rate for arable holdings paying less than twenty bolls of grain-rent was - in line with the figures for Castle Lyon and Errol - more than three times that of holdings paying rent of forty bolls and above.

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[38] See Chapter 3.2, above.
[39] NRA(S) 885, 190/1/20.
[40] NRA(S) 885, 54/1/14.
[41] See Appendix to Chapter 4.2, below.
[42] Dodgshon, *Land and Society*, 69.
[43] Holdings that were predominantly pasture, even though paying a small amount of grain-rent, tended not to pay kane fowl. This is reflected particularly in the analysis of the Inchleslie rentals, where a large proportion of the estate was in pasture.

The smallholdings were considered the most intensively farmed and most productive ground on an estate. Patrick, Earl of Strathmore, writing in 1690 boasted that his improvements to the mains land at Castle Lyon had made it ' ... as fruitful as a cotterman does to his single aiker of land.'[44] Although probably situated on some of the better land there was not enough difference in the intrinsic quality and fertility of the ground (the rigs of smallholdings were intermixed with those of large farms on the Kirkton of Errol) to merit the disparity in the levels of rent between the two. That the smallholders could, for the most part, meet such a level of rent gave the practice sanction, but that particular principle was not applied in the same way to the largest farms, many of which also had the potential to be very productive. To meet the high levels of rent levied per acre on the smallholdings (two bolls of grain plus kane fowl, taxes and labour services) and make their possession worth the while of a tenant, the yields achieved must have been substantially above the general mean of 3:1.

The tenancy of a smallholding did offer the security of a home, a subsistence and a place within the local community. In spite of the various labour services to be carried out at the behest of the laird, it also offered a degree of independence denied the cottars who, as a form of sub-tenant, were required to move on with the farmer for whom they worked. All evidence, however, points to the very narrow margins attainable from small acreages. To do more than subsist, tenant smallholders and their families had to be skilled, industrious and enterprising.

The large majority of tenant smallholders and their families were engaged in additional employment. Some, like the Donalds in Rait, part of the Fingask estate, were cordiners, others brewed ale, James Dass, acted in the highly skilled and trusted role of corncaster, Mungo Belly held the important position of ground officer.[45] Many were involved at some level in the manufacture of linen and woollen cloth, either in weaving, the bleaching of linen or, in the case of female members of many families, spinning.[46] A large number looked to the estate for part-time work. The importance of this to the livelihoods of the smallholders and a reflection of the

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[44] NRA(S) 885, 190/1/22.
[45] PKAC MS169/14/2/8.
[46] NRA(S) 885, 190/1/23.

marginal viability of many smallholdings is illustrated by the case of a tenant of one poor possession who refused the offer of a better holding, as his current situation very near to the castle 'put him in the way of work there'.[47] (The records that are extant suggest that few, if any, farm servants employed on a full-time basis held land directly from the proprietor of the estate.)[48]

Details or descriptions of the type and amount of crops grown on Carse of Gowrie smallholdings are both rare and incomplete. Elspet Donaldson, up until the time of her death in 1680, farmed a total of eight acres at Castle Lyon. The possession was larger than the average but not untypical of the smallholdings on the estate. It comprised two aikers of 'toun' land, three aikers of mains infield and a further three aikers of mains outfield.[49] The rent amounted to twelve bolls of victual (five bolls, two firlots, three pecks of wheat; three bolls, two firlots, two pecks of bear; and two bolls, two firlots, two pecks of meal). At the prevailing fiars prices this was worth £65, plus two capons, seven poultry and the obligatory £8, or two 'hooks' in harvest, or one stone of lint. Wheat was sown in the autumn of 1679. Elspet Donaldson died before the spring and her possession became vacant. The ground not under wheat (four acres) was tilled and sown by the Earl's own servants at a charge of £10. The seed corn - one boll, two firlots and one peck of bear charged at £5 per boll; two bolls, three firlots and two pecks of oats at £4 per boll; and two bolls of pease at £5 per boll – cost a total of £29 6s 3d. The growing corn was 'pryced upon the ground' and sold for £170, to be harvested by the purchaser. The apprising of Elspet Donaldson's goods amounted to a total of nineteen bolls and one firlot of unsold corn valued at £101 5s, plus one mare and one cow, each valued at 20 merks. There was also a debt of £90 resting from previous years. When the whole was balanced, the outstanding debt to the estate came to £24 4s 7d.

It has already been noted that the overwhelming majority of arable smallholdings in the Carse of Gowrie in the latter half of the seventeenth century were held as single tenancies. Boundaries were, as far as can be ascertained, fixed and not held in runrig. However, parcels of land were often scattered. As well as some legacy from the time of runrig distribution, it was also a consequence of the acquisition of

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[47] NRA(S) 885, 129/9.
[48] The trades and manufactures carried on in the Carse of Gowrie, together with the participation of tenant smallholders and cottars are discussed in Chapter 4.7, below.

additional land at different times, notably from the taking in of outfield and commonty and from the reallocation of land from holdings that had fallen vacant.

If land was to be re-set by an estate owner, it was natural it should be done in small parcels that would command the much higher level of rent. There is an increase in the percentage of the total grain-rent met by holdings that paid, individually, less than twenty bolls annually, on three out of the five Carse of Gowrie estates where surviving rentals allow some comparison over time.[50]

In spite of the restrictions and small profit margins that were incumbent on smallholders, there appears to have been little apparent difficulty in letting the majority of these holdings. This probably reflects the relative level of security that was inherent in long-term tenancies held directly from a proprietor. In periods when the standard of living of large numbers of the population was little above that of subsistence, much social status would be attached to the possession of such security. Certainly, few holdings are recorded as vacant on the estate rentals.

The survival of tacks for the district, from this period, is on the whole, quite poor, but examples do exist for almost all those estates for which records are extant and suggest that formal and written leases were the norm even in respect of the smallholders. The length and nature of tacks varied from estate to estate and indeed within estates. On some estates fairly short terms leases of between five and nine years were most common.[51] There is, however, no evidence of any short-term tacks made on Castle Lyon during this period, although this was not the case on nearby lands belonging to the Strathmore family. An examination of a random selection of tacks pertaining to Glamis, Dronlaw, Liff and Auchterhouse estates, indicate that leases of five, seven or nine years, even for large holdings, were the norm on those lands.[52] On Castle Lyon itself, however, written life-rent leases predominated; some nineteen-year tacks were granted, but these were relatively

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[49] NRA(S) 885, 190/1/14.
[50] See Table 3.4, above.
[51] See for instance NAS GD361/10 and SAUL MS36220/421.
[52] NRA(S) 885, 26/7; 30/1/1; 136/1.

rare.[53] Only where a prospective tenant was allowed a trial period on a smallholding, was land let without a lease and at the will of the Earl or Countess.[54]

A substantial degree of continuity of tenancy is apparent on the Carse of Gowrie estates for which records survive. An examination of the rentals shows that where an estate remained in the hands of the same family of proprietors, there was also a high recurrence of tenant family names over quite lengthy periods. Even on the Inchleslie estate, of the fifty-four family names listed as tenants to Lord Deskford at the time of its sale in 1650, twenty-nine – more than half – were still there twenty-four years later in 1674 when the estate was in the hands of Mr Francis Montgomerie, son-in-law to the Earl of Leven.[55] This compares with Castle Lyon where, of the thirty-five family names listed as tenants there in 1671, seventeen were still present in 1691.[56]

Long term and life-time leases allowed a laird the opportunity to charge substantial grassums, normally the equivalent of one or even two years' rent. These fees were levied on tenants at their entry to a holding. A large farm of two ploughgates could command a figure of 500 merks (£330).[57] The grassums for the smallholdings of the aikermen of Longforgan were set at the much higher rate of £20 per acre for the best land; for less favoured possessions the fee was reduced to 20 merks (£13 6s 8d) per acre and down to a minimum of £10 for the worst. In return, the tenants were not removed 'for their lyfetyme unless upon ill payment of their dewty'.[58]

A second advantage gained by the estate owner in granting a long lease was for the 'security for good able tennents'.[59] Tenants who were hardworking and knowledgeable made for a productive and profitable estate. Where the tradition was for a substantial amount of continuity among tenant families it was imperative for the long-term health of the estate and the community as a whole that the right

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[53] NRA(S) 885, 129/9.
[54] Castle Lyon was, for much of the latter part of this period, held as the jointure lands of the Countess of Strathmore.
[55] NAS GD26/5/248 and 250.
[56] NRA(S) 885, 64/1/1 and 190/1/23.
[57] NRA(S) 885, 136/1.
[58] NRA(S) 885, 64/1/1.
[59] NRA(S) 885, 129/9.

choice of tenant was made. The preferred policy throughout the second half of the seventeenth century was for the sons and sons-in-law of tenants to succeed to the possessions of their parents and for existing tenants to take additional tacks on holdings that fell vacant or on land brought newly into cultivation. The policy was one of safety first that avoided some of the pitfalls that could arise from the introduction of individuals unfamiliar with local practices and the disruption that overly frequent changes could bring. It ensured that the large majority of farmers had direct knowledge and experience of the particular problems and management requirements posed by local ground conditions. Despite this there remained a good eal of movement of tenants, especially among neighbouring estates, but a majority of tacks were granted to known or existing tenants and their close relations.

This policy also operated as a form of reward for what might be termed long service. Patrick, Earl of Strathmore writes of setting a 'roum' to a young man, John Moreis:

> '... I was the rather induced to be favourable to him because that his father, grandfather, and forbears have been ther since the memory of man, and Francis Graham [the previous tenant] had possession of it only as marrying his [John Moreis's] mother.'[60]

This approach to the letting of holdings would do much to foster an important sense of continuity and security among tenants on the estate. The above example also demonstrates, however, that the granting of a lease rested wholly on the judgement and even the whim, of the laird, whatever the expertise of a prospective tenant and however influential might be his or her family background. The tradition of awarding life-time leases on Castle Lyon and their passing to the next generation, may have been founded in the customary tenancy that was a feature of landholding in many areas of Lowland Scotland in the sixteenth century, but the formalised practice was no longer acknowledged by the second half of the seventeenth century.[61] The number of family names that disappeared from the rentals throughout the period, show that the balance of continuity and change was, more or less, equal.

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[60] Miller, *Glamis Book of Record,* 99.
[61] The customary inheritance of tenanted holdings and 'kindly possessors' are discussed in. Sanderson, *A Kindly Place?,* 1-11.

A further insight into the relationship between laird and tenant and the manner in which tacks were set is revealed by a review of tenancy agreements that was habitually carried out at Castle Lyon following the death of the laird.[62] The exercise was on the one hand an overt demonstration of the power and control of the estate over its smallholders. The onus was on the tenant to produce a properly subscribed lease; there was no expectation that a copy should be in the hands of, or provided by, the estate, although the history of each tenant was apparently well known to the agents conducting the review. On the other hand, the arguments presented by those in possession of the smallholdings did not suggest that they felt themselves to be overly intimidated. The negotiations centred on the amount of grassum that might be extracted from those unable to prove a current lease, rather than whether or not the occupier was acceptable as a tenant. The testimonies indicate that the aim of the review was, wherever possible, to reach a reasonable accommodation with the current occupier or an identified successor. The document neither betrayed a sense of any danger that holdings might be left unoccupied nor, on the other hand, of the estate having a wide choice of prospective tenants eager to pay well for the lease of a smallholding. It does not present a clear answer to the question as to the ease with which an estate could, if the need arose, find suitable new tenants of the right quality.

Whereas the long lease of a large farm, at reasonable rent, offered both security and incentive to a tenant, the life-rent of an unprofitable smallholding could, in effect, be a life-sentence. Robert Graham, the son of a deceased Castle Lyon aikerman made it clear to the agents of the Earl of Strathmore that he would not even offer for his father's possession 'were it not upon consideration of the old tender woman his mother'. The reasons he gave were that the holding was so poor that no one before his father had been able to 'pay the ferme of it for any number of years' and that his father had laboured 'by all means to get rid of it, but could never prevail, being sometimes threatn'd and sometimes imprison'd', when he had tried to do so. Graham was no doubt taking a negotiating position when making these points; he also protested about having to pay rent in wheat for his outfield land, when even his best infield was not comparable to the worst designated wheat land in Longforgan. He also claimed that a 'disobliged trustee of the late Earl' had

measured a large part of his yard in with the land on which he had to pay ferme. In spite of his protestations, those acting for the estate thought Graham might be induced to pay an entry of 100 merks (the same amount as his father had paid) providing proposed changes to carriage services were not implemented.

The incident illustrates the extent to which tenancy agreements needed to be and were, binding. Had a tenant been allowed to walk away from an unprofitable holding, as Robert Graham's father had attempted to do, the whole authority of the laird would have been undermined, and with it the foundation on which the social order of the estate was established. The imprisonment of the would-be offender demonstrates how seriously such action was regarded.

The concern of estates to have the occupiers of land bound by leases and therefore under some degree of control is illustrated by the case of the small and 'ill' farm of Byreflatt, the land of which was leased to three smallholders. A further three men had created tenements there without tacks, on land which they had themselves improved and were cultivating 'with only a hole called Lauries-dub fill'd up for a yaird'.[63] The estate approved their farming of the land - their efforts having increased the size of the holding by a half - but not to their remaining as tenants 'at will'. The officers reported that only 'after much dealing' and the offer of life-rent tacks together with the inducement of the freedom to erect much needed out-buildings with materials supplied by the estate, could the three men all be 'brought frankly to yeeld'.

The above example is also evidence that members of the lower orders were, on their own initiative, reclaiming and improving land to increase the size of their holdings or, as in this particular case, create new ones. Such 'improving' activities were by no means the sole province of lairds. In the long term the landowner was the main beneficiary and consequently happy to condone the resourcefulness and endeavour of their tenants.[64]

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[62] NRA(S) 885, 129/9.
[63] *Ibid.*
[64] A similar process of land reclamation by 'peasants' was found by I. Carter, *Farmlife in Northeast Scotland, 1840-1914* (Edinburgh, 1979), 56-60.

The tenants of smallholdings were effectively trapped within the system. The economies of scale prevented even those with aspirations, ability and fertile land from making good profit and accumulating capital. Very few of the Castle Lyon smallholders, even under the relatively commercially minded and progressive regime of Earl Patrick were, in the latter half of the seventeenth century able to advance to a significantly larger holding. On the occasions where this did occur, marriage to the daughter or widow of the previous occupier would seem to have been a critical factor. Alex Craw, a mason possessing a relatively large smallholding was able to move up to a farm of two ploughgates in consequence of his marriage to the daughter of the previous tenant.[65] Francis Graham's acquisition of a holding extending to one ploughgate was also aided by an advantageous marriage. Gilbert Murray doubled the size of his holding when he 'succeeded John Duncan in both his Roum and wife'.[66]

In spite of the authority lairds enjoyed over their lands, their treatment of the smallholders was not entirely merciless. There were strong economic grounds against the over-burdening of tenants in either their rent or labour services. Smallholders unable, for instance, to carry out their own harvests would be in no position to pay their rents and in the worst cases could become a burden on their community. The maintenance of the social order also demanded that a laird should not be overly unreasonable. Within the traditions on which the relationship between laird and tenant were founded were strands of paternalism and deference that, at least to some extent, balanced those of obedience and control. The smallholders and their families formed an extremely large section of an estate's population and as such they had the potential to cause a great deal of trouble for their lairds. To work effectively the system had to operate within a culture of consent. Demands deemed to be intolerable opened the door to disruption and disorder.

The introduction of improvements that encompassed enclosure and the taking in of land was a potential source of tension. Enclosed policies were created on a number of Carse of Gowrie estates in the second half of the seventeenth century and the area of arable land was increased at the expense of commonty and previously

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[65] NRA(S) 885, 190/1/23
[66] NRA(S) 885, 129/9.

uncultivated ground.[67] Commonty was a most important resource for smallholders and the lower orders of the rural population. It supplied, at the cost only of their labour, fuel and building materials for themselves, plus summer grazing and winter bedding for their livestock. The contribution it made to their income was critical; its loss had the potential to be catastrophic to families on smallholdings, the economic viability of which was already marginal. Change brings uncertainty at the best of times; when perceived as threatening livelihoods and even a way of life, strong resistance is to be expected.

The concern of the Countess of Strathmore in this regard is evident in a 1693 letter, written after an approach from the Laird of Mylnfield for the purchase of part of an open field on Castle Lyon to facilitate a scheme of enclosure he was undertaking. The Countess worried that, should she agree to the sale

> ' ... the tennents of Longforgan will clamour extremely upon the pairing & diminution of their commonty there upon the east, Especially when upon the west hand, I am dayly encroaching upon that part of the next adjacent to me ...'[68]

In the event, the Countess was persuaded by her 'love ... for all improvements, and the earnest felicitation of friends' to sell the land, but only on the condition that Lord Kinnaird of Inchture would sell to her in its place, a neighbouring portion of open field for which she was prepared to pay 'liberally' and that she would leave unimproved.

From notes of apprisings and accounts for building materials, it is possible to draw at least a partial picture of the smallholdings during this period.[69] Farmsteads in the Carse of Gowrie in the second half of the seventeenth century were, typically, cruck-framed buildings. The cruck frames were formed from two large, naturally curved pieces of wood, held together at the top. The individual pieces were generally termed 'pan trees' and the cruck itself a 'couple'. Lesser pieces of wood ('kebers') were laid laterally across the inwardly curving sections of the couples to support the roof. Stones were used for the base of the outer walls, but the material used most

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[67] See Chapter 4.5, below.
[68] NRA(S) 885, 198/2/3.
[69] NRA(S) 885, 50/3; 129/9.

commonly for the upper parts of the walls and the roof itself would seem to have been turfs - giving rise to their frequently being described in estate papers as 'grass houses' - although straw may also have been used as a thatch.[70]

The size and number of the couples determined the floor area of the buildings. A span in the region of five ells (just over 15 feet) appears to have formed a fairly standard width with a length of three ells (just over nine feet) between each of the couples.[71] This is in line with measurements found by I. D. Whyte for tenant houses and buildings in other areas of Scotland during this period.[72] However, the houses of cottars could well have been substantially less than this if, as is likely, smaller and poorer, or patched 'trees' were used in their construction.

The poorest houses were dismal. Writing in the 1680s, Patrick, Earl of Strathmore describes the outbuildings he inherited at Castle Lyon in 1660 as being so bad ' ... [they were] no better then a company of small and naughtie[73] cottar houses'.[74] His comment implies that his expectation was for farm buildings to be of a higher standard than his workers' houses. This was certainly true with regard to the barn 'built new from the ground' at Dronley in 1698. It extended to eleven couples, with nineteen dozen kebers purchased for the roof and doors; the stonework for the walls was measured at just under two roods.[75] Barns were built to hold the grain from the mains farm; girnals the ferme from the tenants. They had to be strong enough to withstand the attention of wandering livestock, sufficiently sound to keep their contents dry in the face of the Scottish weather and secure enough to deter thieves - criteria desirable in a dwelling house but not, it would seem, considered of vital importance for the lower orders.

At the end of the seventeenth century a typical farmstead in the district extended to a house, a stable, a byre and a barn, possibly with one or two other outhouses and

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[70] PKAC MS100/963.
[71] NRA(S) 885, 163/5 contains a substantial number of very detailed notes of apprisings of houses and farmbuildings in the possession of smallholders on the Glamis estate of the Earl of Strathmore *c.*1695-1705.
[72] Whyte, *Agriculture and Society,* 166.
[73] Naughtie: good for nothing, worthless, unfit for use.
[74] Miller, *Glamis Book of Record,* 34.
[75] NRA(S) 885, 50/3.

a dyke or fence around the cornyard.[76] These were generally built in the form of one longhouse divided into their separate parts by internal walls. This design was more economical in terms of building material than if the farmstead had been constructed of freestanding units.[77] The Timothy Pont map (circa. 1590), of the Carse of Gowrie depicts a number of the smaller villages and ferm touns in the district as a row of adjoining boxes.[78] Only some of these boxes are indicated as having chimneys. (A clear example is the village of Pitmiddle in the parish of Kinnaird.) These may well represent the predominance of longhouses and indicate that this was the traditional form of lower status building in the district at that time.[79]

The farm depicted by Slezer (albeit on the outskirts of Dumfermline), corresponds to a remarkable degree with descriptions of Carse of Gowrie smallholdings recorded in notes of apprising dating from *circa.* 1706.[80] The largest holding cited extended to six acres of tiended infield land and two acres of carse outfield 'unanimously concluded the best Acre roum in toun'. It comprised a dwelling house of three couples, a barn of two couples, a byre of one couple, an outer house of one couple and another of three 'trees', together with the 'best yaird in Longforgan'. This represented a farmstead with a longhouse stretching to seven couples (roughly sixty-five feet), one small round building and a substantial yard.

The size and quality of the farmsteads generally reflected the size and quality of the holding. One smallholding, 'at best reckon'd ye very worst in Longforgan' comprised a dwelling house of only one couple plus a barn of two couples, three three-treed outbuildings and a 'very little yaird'.[81]

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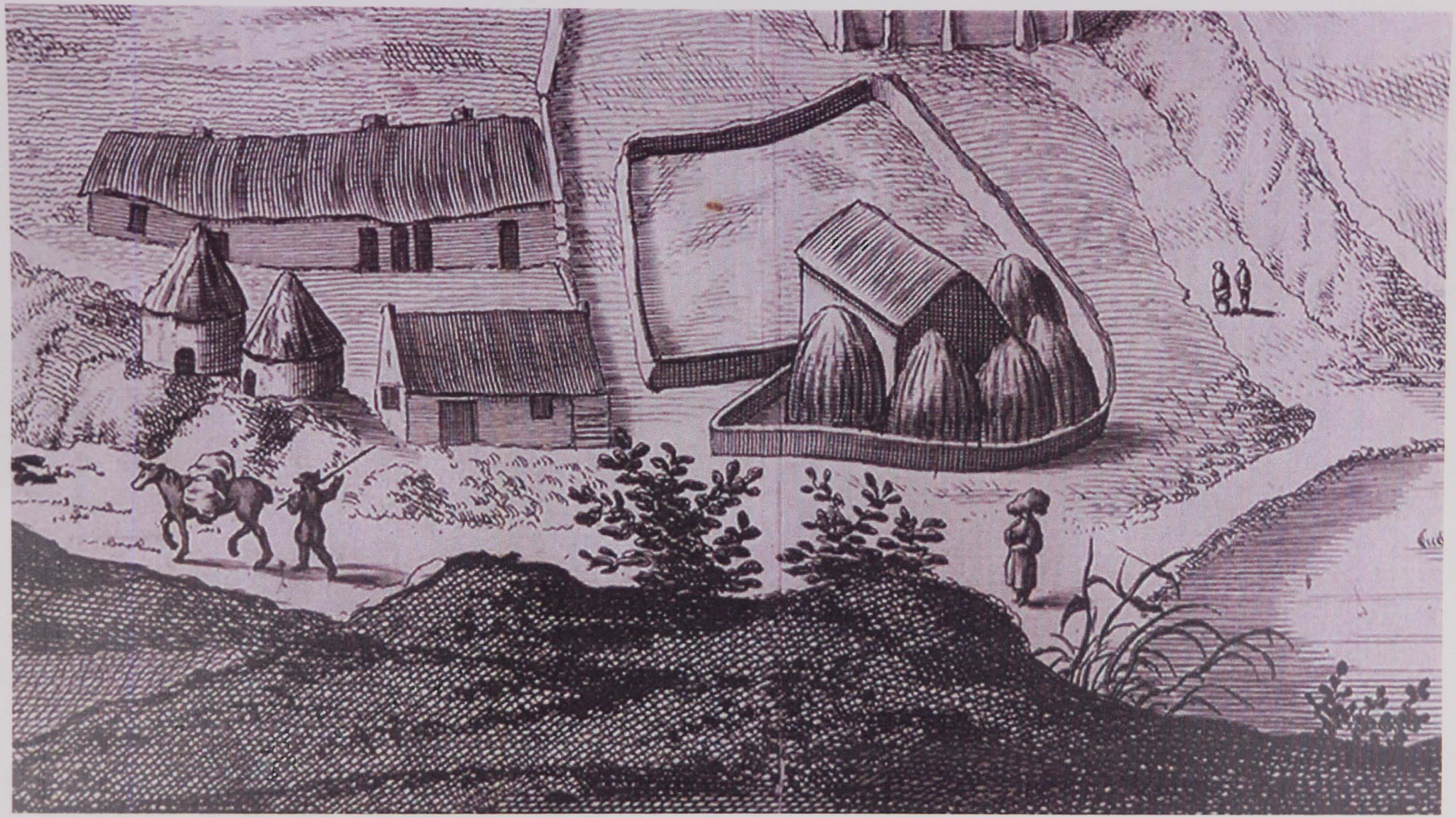
[76] NAS GD316/2.
[77] Whyte, *Agriculture and Society*, 165.
[78] Figure 2.7, above.
[79] For a discussion of the representation of buildings in Timothy Pont's maps, see: C. A. McKean, 'Timothy Pont's Building Drawings' in I. C. Cunningham, (ed.), *The Nation Survey'd, Essays on late sixteenth-century Scotland as depicted by Timothy Pont* (East Linton, 2001), 111-124.
[80] See p.161, below. NRA(S) 885, 129/9.
[81] Ibid.



Detail from *the Prospect of the Abby of Dunfermling,* John Slezer, 1693, showing a farmstead typical of the eastern Lowlands.
Reproduced by permission of the Trustees of the National Library of Scotland.

When the acreages of these Longforgan smallholdings are taken into consideration the extent of the farm buildings do not compare unfavourably with those described in the tacks of larger farms. In 1668 on the Fingask estate, Thomas and George Cock were the incoming tenants to a holding extending to more than one ploughgate. They were required to build at their own expense a dwelling house of four couples. This was twice the size of most of the 'sithouses' of the Longforgan smallholdings.[82] It may have been to reflect the higher status accorded to a substantial farm, but it was also, possibly, the minimum size needed to house in relative comfort the families of the two brothers. The farm buildings, however, were to extend only to a barn of two couples and a stable and byre, each of two couples.[83] These were essentially the same offices as those found on the smallholdings - the extra size of the stable and byre accommodating the additional numbers of horses and oxen required to work the much larger farm. The size and number of the farm buildings in the toun of Longforgan possibly also reflected the more intensive nature of arable cultivation to be found on the fertile low ground at the beginning of the eighteenth century, compared with that on the braes some four decades earlier.

There is little evidence to suggest that there were any major alterations to the form and structure of the buildings on tenanted holdings in the district during the seventeenth century. This is in contrast to the residences of many of the landowners, which were the subject of dramatic improvements, particularly after 1660. John Adair's 1683 map of *Straithern, Stormont & Cars of Gourie*[84] celebrates the houses of the estate proprietors of the district, many of which are depicted as already set in newly enclosed and planted policies. The map, however, makes little or no reference to their farms or to villages, signalling that such buildings were not the subject of any notable innovation or investment at that time. The 1691 Hearth Tax records indicate that few even of the husbandmen boasted more than two hearths, suggesting that their houses were probably little more substantial than those of the tenant smallholders. The evidence provided by contemporary estate papers, it would appear that tenanted farmsteads in general and particularly smallholdings, had to wait until well into the eighteenth century to see the

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[82] Sithouse: the term used for a small dwelling house.
[83] PKAC MS169/14/2/8.
[84] Figure 2.6.

introduction of significant improvements in their size and construction, on any scale.[85]

The experience of the husbandmen in terms of their economic status was very different from that of the smallholders. Substantially lower levels of rent and economies of scale allowed the tenants of the large farms in the Carse of Gowrie to make significant profits in good years and the possibility of accumulating capital. In contrast, the strictures of size and high levels of rent denied smallholders such opportunity. Although smallholders might acquire a few extra acres, the income that could be derived from such possessions was not sufficient to generate the capital needed to take on a large holding of half a ploughgate or more. In consequence a 'good' marriage appears to have been the principal, and perhaps the only, bridge across what was a very wide economic divide. The security of tenure enjoyed by tenants holding land directly from a proprietor was of critical importance in a society where income was on the whole low and where there had been considerable dislocation in the aftermath of the mid century wars. Continuity of tenancy appears to have been a policy generally favoured by estates in the district, regardless of the length of the lease customarily offered or the size of the holding.

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[85] PKAC, MS100/P7. Surviving examples of early stone or brick farmhouses built on tenanted holdings in the Carse of Gowrie tend to date from the third quarter of the eighteenth century. For instance, the original farmhouse at East Inchmichael, Errol (now part of the winery), and Hilltown of Ballindean, Inchture.

4 ECONOMY

4.1 Introduction

The greatest single day-to-day problem with which Scotland's economy had to deal and which in large measure determined the manner in which transactions even at local level were carried out, was that of money supply. The problem stemmed from the nature and limitations of the country's trade and a crippling lack of specie. The shortage of coin was a want that affected the whole spectrum of Scottish society. It contributed to the high proportion of payments that were met in kind rather than in money. It posed a problem for the many landed proprietors who had to meet large interest payments on extensive debts. Tiends and feu duties could be, and often were, levied and paid in grain; the annual rents on bonds and loans were, for the most part, payable in money.[1]

Foreign trade was central to the health of the economy. Scotland's home market was small, relatively poor and badly integrated; as such it offered little scope for a significant expansion in production and very limited opportunities for the accumulation of capital.[2] Outlets to foreign markets were needed in order to encourage and expand domestic production. However, the goods that were available for export were essentially primary products and low quality manufactures, comprising for the most part live cattle, wool, fish, hides, grain and coal, coarse linen goods, woollens and salt.[3] In contrast, the bulk of Scotland's imports were, along with the 'necessary' wares of

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[1] For example, a letter from the Earl of Strathmore's agent states that money is needed in Edinburgh against bills and that 'my Lady' had suggested trying to meet some with sales of bere, but that 'only ready money will answer ...'; NRA(S) 885, 198/2/15 (1985).
[2] Smout, *Scottish Trade*, 23.
[3] *Ibid.*, 237.

wood and iron from Scandinavia and flax and hemp from the Baltic, consumables, manufactures and luxury goods from England and the countries of the Atlantic seaboard.[4]

Foreign trade provided the life-blood of the economy but with a large proportion of the imported goods of an inherently higher value than those exported there was, for the most part, an adverse balance of payments. This problem was exacerbated by a devalued currency and a dire shortage of coin with which to make payments.

The roots of Scotland's currency problems lay in the crown's resorting to the raising of money in the later-medieval period by means of debasing the coinage. By 1500 the silver content in the Scottish pound had been reduced by 82% from its level in 1250. This was not out of line with the general experience found throughout Europe in the same period, but the plunge in bullion content and relative value of the Scottish pound that occurred between 1500 and 1603 was, as stated by A. J. S. Gibson and T. C. Smout, 'more rapid and extensive than that over any comparable period in the middle ages, and more severe than anywhere else in Europe'.[5]

At the time of the Union of Crowns in 1603, the value of the Scots pound had fallen to a ratio of 12:1 against the English pound sterling and remained fixed at that level. The specie in general use in Scotland included a considerable amount of coin from the various countries with which trade was carried out. In the Carse of Gowrie, family papers and accounts indicate that English pounds sterling tended to be reserved, where possible, for the payment of imported goods with wine being a particular example.[6] Purchases made in England and from English based merchants also demanded sterling.[7] The use of currency such as the 'rix' and 'leg' dollars was not uncommon in the settlement of local transactions and even for the payment of servants.[8] Again,

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[4] *Ibid.,* 152-204.
[5] Gibson and Smout, *Prices, food and wages in Scotland,* 5.
[6] NRA(S) 885, 91/9/28 (1704).
[7] NRA(S) 885, 198/6/43 (1676).
[8] These were in wide circulation across Europe. The 'leg' (Liege) dollar was valued at £2 16s. and the 'rix' (reichs) at £2 18s. An account of items bought at a Longforgan market was met by '5 rex dollars which is £14 10s 8d'. NRA(S) 885, 190/1/17 (1682). See also, 112/7/12 (1635); 28/6/5 (1680). NRA(S) 885, 112/8/45 (1639); PKAC, MS100/1084 (1695).

while a mix of coinage was not unusual for the time, countries with relatively strong currencies such as England and France were able to command much more favourable rates of exchange. The uncertain medley of monies used to meet bills from abroad drawn on Edinburgh, caused the exchange rate obtainable there to be even lower than might otherwise have been justified by the balance of payments.[9]

An expansion in trade opened the door to excessive imports that at times, as in 1681, were far beyond the worth of the primary goods traded by Scottish merchants. It was usual for Scots to settle their accounts abroad by bills, drawn chiefly on London, or in gold or silver. When high demand made the credit normally obtained in London exorbitantly expensive, it was cheaper to settle accounts in precious metals. The coin, plate and bullion that was removed from the country in order to do this, further stripped Scotland's already weak monetary base and seriously threatened its means of payment. The result was an even greater contraction in credit availability with consequent knock-on effects for trade and commerce.[10] To keep the system of payments in some sort of order, methods of credit, debt and barter evolved over the years that have been described by R. Saville as 'robust but often confusing'.[11]

While no region or district of Scotland during this period can be regarded as either typical or representative, the Carse of Gowrie was within the mainstream of the Scottish economy. The proximity of the district to the major towns of Perth and Dundee, the ease of access to the trade routes of Scotland's east coast, the production of commercial crops and involvement in the linen trade has been noted in previous chapters. Its fortunes were intimately bound to those of Scotland as a whole, not only in terms of trade, manufacture and market opportunities, but also in terms of the pressures and constraints upon it. The relatively high level of contact with the outside world and the impact that this had on the wealth of the district, together with the strands of commercial activities present there, make it an extremely valuable area for the study of Scotland's emerging market economy.

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[9] S. G. Checkland, *Scottish Banking, a history, 1695-1973* (Glasgow, 1975), 11.
[10] *Ibid.*, 11-12.
[11] R. Saville, *Bank of Scotland: A History, 1695-1995* (Edinburgh, 1996), xxxii.

This chapter will consider the nature of the wider economy within which the district's agriculture operated *c.*1660 – 1707 and explore the means by which it was able to function effectively at a local level within the constraints imposed by national problems. Particular attention will be given to the forces that determined the way in which rents were levied and paid, together with the process and timing of change.

The principal source of the Carse of Gowrie's wealth was grain growing. Cereal production in the district will be examined, together with the nature of the improvements that were being carried out, the level of the crop yields achieved and the trading of grain. The enclosure of parks, policies and agricultural land had a major impact on local society, farming practice and the landscape. The extent to which enclosure was being carried out and its effect on the local economy will be explored. In the period under review, linen became Scotland's largest export. The Carse of Gowrie was a traditional centre of its manufacture; the importance of its production in the district will be studied and also the development of other rural trades and industries.

4.2 Rents, labour services and the internal economy of the estate

At the heart of Scotland's early modern rural society and economy was the system of agricultural rents and labour services. The terms and conditions under which land was possessed and occupied was the critical area of interaction between landlord and tenant and central to the social order. It was integral to the arrangement of rights and responsibilities - of both landlord and tenant – on which rural society was based.

Tenants were the backbone of rural society and farmed the large majority of Scotland's land. The possession of their holdings, their livelihood, home and any independence they might have, depended on the payment of rent and labour services. These levies were, however, two quite different forms of duty. Rent was essentially an economic transaction. It was payable in money or kind and represented for tenants their largest and most important outgoing; for estate owners, rents were their primary source of income. Labour services on the other hand, were born out of feudal servitude and remained part of that heritage; they were obligations carried out in the direct service of the laird.

This section will examine the nature of agricultural rents and labour services in the Carse of Gowrie, their central role in the working economy of the district and the extent and timing of changes brought about in response to expansion and development within the financial system and by a modernising society.

As has been the case generally found across Lowland Scotland, the rent on tenanted land in the Carse of Gowrie was made up of a number of separate components. The largest part - the principal rent - pertained directly to the size and nature of the holding. Pasture was assessed and expressed in money according to the area and the number of livestock that could be supported. Land subject to cultivation was, on the other hand, assessed according to the amount of victual that it could produce and the rent for this was expressed in terms of the customary

crops grown upon it. The money rent payable on pasture was, particularly in early periods, commonly termed 'mail' or 'maile' while victual rent was widely referred to as 'ferme'. In addition to the principal rent there were a number of lesser payments, usually in kind, that tended to follow a customary pattern particular to each estate. Payments in poultry, comprising chickens, hens and capons - termed 'kane' fowl - were almost universal. The combination and number to be paid was normally linked with some exactness to the size and type of the holding.[1] Other more specialised produce, for example lintseed, swine, salmon and wild geese, were associated with particular possessions and areas.[2] Within the Carse of Gowrie throughout the seventeenth and into the eighteenth centuries, linen, either in the form of spun thread or woven cloth, was an important element of rent on a number of estates.[3] It was generally the responsibility of the tenant to deliver his or her rent, be it in the form of money, victual, poultry or linen, to a place and at a time appointed by the laird. In the case of grain rents this might be direct to a local port or merchant rather than the landlord's girnels.[4]

Tenants were also required to perform various specified services that typically included the carriage of goods for the laird and the provision of labour.[5] These were obligations rather than rent, but their nature and the degree to which, on many estates, some labour services were carried on well beyond the time when aspects of in kind rent were commuted to money, serves to illustrate the strength of custom that continued within agriculture and rural society throughout the early modern period. An examination of why certain feudal traditions endured so long, in a period when the emphasis was increasingly on modernisation and commercialisation, reveals much about rural society and the forces that operated against change. It also adds perspective to the changes that did take place in the way in which rents were levied and paid.

The power of the feudal lord was founded on his holding of the land on which the local population depended for their survival. It was this relationship that under-pinned rural society and economy. In return for rent, tenants were given the use of

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[1] Dodgshon. *Land and Society*, 69. See also Chapter 3.6, above.
[2] Swine were commonly included in the rent payable by millers; PKAC, MS100/963 (1634); NRA(S) 885, 64/1/1 (1671).
[3] See Chapter 4.6, below.
[4] See for example, NAS, GD 316/10 (1699) and SAUL, MS362220/421.

land; in return for service they were given protection from hostile neighbours and, as far as possible, from hunger in times of want - the essence of paternal lordship. The lord and his land had precedence. In unsettled times and while agriculture remained in an 'unimproved' state, it was necessary for the well-being and at times even the survival of the community, that the crops of the demesne land (effectively the mains farm) which was often the best land nearest the castle or tower house and most easily defended, were given priority. The labour resources of all the tenant farmers, working on this together, increased the chances of getting the seed into the ground at the optimum time and the harvest safely in, particularly in years of poor weather when days of sufficiently dry conditions were few and had to be seized.

The rationale that gave sanction to the continuing imposition and practice of labour services long beyond the ending of true feudalism was their ultimate benefit to the community, even though in normal years the laird at its head reaped most if not all of the rewards. Lairds and estate owners came and went, as did individual tenants, but customary labour services were attached to the land and endured across centuries. Each landholding had specific obligations affixed to it that were so deeply established in custom that the details were rarely specified in leases. Even the earliest examples of written leases surviving from the Carse Grange lands of the Abbey of Coupar Angus and dating from *c.*1440, stipulate only 'the usual service'.[6] A typical clause dating from the end of the seventeenth century, appears in a tack from the estate of Leyes in the parish of Errol: '... with harrage carriage, and due service used and wont yeirly with the rest of the tenents and effeiring to the said labouring'.[7]

A critical phrase in the above example is: 'with the rest of the tenents'. This phrase, or something of the same meaning, is to found in almost all tacks of the period. The ethos was one of co-operation and of community; the security of the whole was the responsibility of and contributed to, by all members. As long as livelihoods

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[5] Coal was a common example. *OSA,* Vol. XI, 373.

[6] '... this grange is let to the husbandmen dwelling therein, for 7 years, in which grange are contained 52 acres (jugera), paying yearly for each acre 18s and 2 hens and in money £46 16s. Likewise the said husbandman shall pay yearly for the teind sheaves 5 chalders of meal with 8 bolls oats, with the usual service.' Rogers, (ed.), *Rental Book of the Abbey of Cupar-Angus*, Vol. I, 123:36.

[7] Effeiring: pertaining, appropriate.SAUL, MS36220/421 (1697).

gained from the land were precarious and dearths severe, memories would be long; the culture that this fostered would not be given up lightly by those held in a subsistence economy. At the same time, the value of the system to the laird was enormous; not only in economic terms but also in the way it reinforced the social order. It nurtured a way of life that was, in essence, dependent upon both laird and neighbour and which, therefore, encouraged the self-imposition on the part of the community of discipline, order and mutual aid. The obligation to turn out and work on the mains farm, at whatever the cost to the tenant's own crop, demonstrated in addition the power of the laird and reinforced the lack of the individual tenant's independence. The whole is the antithesis of the capitalist philosophy and system, where economic organisation is based on market competition and the means of production are privately owned and directed by individuals.

As shown in Chapter 3.6, above, it must be emphasised that the labour services borne by the tenants of smallholdings were, proportionately, greater than those of the tenants of substantial husbandlands[8]. Those with only small amounts of land had, on the one hand, the least stake in the system and in that sense the least to lose; on the other hand, however, they formed by far the largest group of tenants. As such, if disaffected, they had the potential to cause serious disruption to the social order. In that respect, they were the sector of the community on whom the laird had the need to impose the greatest control. They were also the group who, in times of want, would find themselves among the first in need and who would also find most welcome the allowance of food and ale that was given out to those workers carrying out labour services. The balance of coercion, reward and commitment of time and energy, was an important element in the longevity of the system

Evidence of the scale and enduring nature of labour services can be seen in a notice from 1742 advertising the setting in tack of the Mains of Glamis, by roup, to the highest bidder. At the head of the list of advantages with which the farm was favoured, was the statement that

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[8] Husbandland: An area of tenanted land, normally a minimum of two oxgates, but essentially one perceived large enough for the tenant to derive a living sufficient to support a wife and family.

> '... there are thirty four tennants in the Lordship of Glammiss which are Oblidged to till and harrow a whole week on the Mains yearly and also to shear theron at any time when Required, besides hay winning, and Severall other usefull Services.' [9]

The tenants on the Glamis estate of the Earl of Strathmore were still being obliged to carry out these services at a time when the rent of the Mains of Glamis had been commuted into money and many improvements carried out. The farm had already been fully enclosed with stone dykes, ditches and hedges and the land improved with marl. Whatever the changes that were being made in the farming and the structure of the estate, the labour services remained affixed to the mains land when it was rented out. The rent bid for the farm was expected, however, to take into consideration the value of the tenants' services. A valuation of the Castle Lyon estate dating from 1759, when the mains farm there was in the hands of a tenant, shows that a commuted sum of £444 for the labour services of the other tenants on the estate was set against a total rent for the farm of £2,256.[10] On the Drimmie estate of Lord Kinnaird in 1775, Robert Blair, the tenant of the mains farm, was allowed a deduction of £420 from a total rent of £2,520 because he did not receive 'the services paid by the Tenants of the Baronys of Inchture and Rossie payable to the Tenant of the Mains of Drimmy'.[11] The value put on the labour services as a proportion of rent in these two instances was 17% and 20%, respectively.

The above two examples show that as and when mains farms were let to tenants, as opposed to being farmed in-hand, monetary values were put on labour services. As feudal control gave way before enlightenment principles and the market economy, they were increasingly commuted. The enthusiastic Improver and 'man of his time', George Paterson, who purchased the Castle Lyon estate in 1777, appreciated the extent and nature of the burden that labour services imposed on tenants and the detrimental effect they had on a commercial economy. He recognised that they signified a relationship between landlord and tenant that was out of place in the new, modern and embryonic capitalist society that he was both

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[9] NRA(S) 885, 148/5/3.
[10] NRA(S) 885, 160/3.
[11] PKAC, MS100, Decreet of Valuation, 1775.

part of and promulgated.[12] In the 1795 account for the parish of Longforgan, Paterson describes the customary services he found at Castle Lyon and boasts of their removal and commutation:

> Some time after [1760], new tacks (leases) were entered into, more favourable to the tenant; but, in all, still such a number of feudal services were required, as to show the practice of former times, and how unwilling they were to give them up; and what is very extraordinary, it was not the landlords alone who were unwilling to give them up: for in the year 1782, when the present proprietor of Castle-Huntly proposed to convert all the feudal bondages into a very moderate money-rent, some very intelligent tenants were averse to convert even the harvest-bondage, which of all others was the most oppressive, although at the moderate computation of 10d *per* day *per* shearer.
>
> ... At this day, there is no thirlage; there is no bondage in harvest; nor are the tenants bound to days work in planting, etc. They pay their rents in money and victual only. They are not bound to go messages; and they only are bound to carry with their horses and carts, a certain proportion of coals for the proprietors family, if they reside ... and some carts for lime, etc. which is seldom demanded; but it is expressly provided, that they shall not be demanded either in seed-time, or harvest.[13]

Whatever the will of the tenants, only the laird had the power to end the practice of labour services. The adherence to the notion of feudal order and control had first to be relinquished before a fresh relationship between landlord and tenant based on economics could be embraced. The seeming reluctance of 'intelligent tenants' in the example above to have even the harvest bondage commuted was quite possibly an 'intelligent' stratagem in the negotiation of an economic rate of conversion. An obvious desire to have been rid of it at any price might have led to a commuted rate well in excess of the 'moderate' ten pence per day (sterling) ultimately set for a

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[12] *OSA*, Vol. XI, 371.
[13] *Ibid.*, 371-3. (On purchasing Castle Lyon, Paterson changed the name back to the original 'Huntly'.).

shearer. Also, the diminution of the attitudes and activities of predecessors and tenants in order to emphasize the modernising intent and achievements of enlightened proprietors, was a common and self-aggrandising practice among Improvers in this period.[14] The considerable value put on labour services as a whole has already been noted above.

The very different ethos that was to be found by the end of the eighteenth century is signified in the language of George Paterson's account, particularly in his use of the word 'proprietor'. This term conveys the primary status of the landowner as being the holder of a property or a business and is without the historical connotations of holding dominion over people as well as land, that are embodied in words such as 'laird', or even 'landlord'. It marks a fundamental change in attitude and thinking and a necessary step in the establishment of agriculture as a capitalist industry.

The heritage of feudal custom and control long remained a very important influence, but practical ways of coping with the realities of agricultural production, the market place and the lack of specie, governed the manner in which principal rents were levied and paid. In the early modern period the relationship between landlord and tenant was gradually evolving and moving towards one that was increasingly economic, but the path was neither straight nor level. A pragmatic approach was needed to negotiate the many tensions and obstacles and meet the immediate financial needs of the estate as well as contend with the strictures and limitations of the Scottish economy.

The nature of agriculture in Lowland Scotland in the early modern period is embodied in the way that rents were set. The practice of expressing the rent for pasture in terms of money and arable ground in ferme went back to at least the fifteenth century in the Carse of Gowrie and survived well into the second half of the eighteenth. Fifteenth and sixteenth century leases for the Cistercian Abbey lands of Carse Grange record the rent of the grazings held by joint-tenants there as 'maile', whereas the rent and tiends for cultivated ground were given in terms of

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[14] A reading of George Paterson's account for Longforgan in the *OSA* suggests that he was, himself, not entirely clear of this charge.

grain.[15] Three centuries later, the valuation of the lands of George, Lord Kinnaird, mentioned above, records only the rent of the mains farm at Drimmie in terms of money, the rental value of the arable ground of his adjoining estates in the parishes of Errol and Inchture was assessed in terms of the grain rent they paid - a total of 1,496 bolls of victual.[16] Similarly, the Castle Lyon rental of 1759 (also mentioned above) records the rent for all the arable ground of the estate, excepting the mains, in victual: 213 bolls of wheat, 197 of barley, 140 of meal and 80 of oats. From the same period, a detailed rental for the estate of Gasconhall in Kilspindie parish, describes all the arable land there in terms of victual, including the mains farm.[17]

The reasons why the rent of arable land was expressed in kind, while pasture was expressed in money, reflected the differences that exist between crops and livestock, the circumstances of their production and their end markets. Cereal production within the infield-outfield system of farming that was generally employed in the early modern period was a long-term and continuing commitment, but the actual production of each crop was a relatively discrete operation and, in agricultural terms, took only a short period of time – from six months to a year from sowing to harvest, depending on the type of grain. The success or failure of each crop was determined within that period and as such, supply and prices were subject to considerable short-term pressures and fluctuations.[18] Also, throughout the sixteenth century - as noted in the previous section on the economic background to this period - Scotland experienced extremely high rates of inflation and what has been termed a 'price revolution'.[19] Such circumstances made it difficult if not impossible to translate into money, with any degree of accuracy, the true value and worth of the victual grown on an individual holding or indeed, an entire estate. The victual rent for the Barony of Errol in 1634, at Perth fiars prices for that year, had a monetary value of £18,488.[20] In 1666, the same victual would have been worth £8,192, less than half the 1634 amount. (At the average fiars prices for the seventy years 1630-1699 the monetary value would have been £12,854.) Although from the first half of the seventeenth century to the last half of the eighteenth there was relative stability in the long-term trend in grain prices, the wide year by year

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[15] Rogers, *Rental Book of Cupar-Angus*, Vol. I, 154:170 (1469) and 210:268 (1478).
[16] PKAC, MS100, Decreet of Valuation (1775).
[17] SAUL, MS36220/465, (c.1750).
[18] See chapter 4.4, below.
[19] Gibson and Smout, *Prices, food and wages,* 5-7.

variations made it difficult, if not impossible, to arrive at a fair rent for a holding based on a monetary valuation, other than on an annual basis and in retrospect.[21] An assessment of worth in terms of the victual that the land was capable of producing could, on the other hand, be calculated comparatively easily and hold true for some years.

Arable production dominated in the Carse of Gowrie but there were also extensive areas of permanent pasture and grazings. Cattle were the principal livestock pastured by tenants. Sheep were kept predominantly in small low-ground flocks, with some estate owners grazing larger numbers in the parks and the policies that surrounded their residences.[22]

The production of finished cattle for market was a much lengthier process than that for grain and not subject to the same kind of short-term pressures and price fluctuations.[23] When the nine-months of gestation is included, the unimproved breeds of the early modern period could take as much as five years to come to maturity. It was usual for cows to give birth to calves no more frequently than every second year, particularly those on poor pasture and without shelter. The level of nutrition required to successfully produce a calf on an annual basis demanded favoured conditions and a supply of good winter fodder.[24] In arable areas, cattle had the potential to be readied for market at a relatively early age or held back a year to grow further; alternatively they could be retained for breeding or burden until twelve years old or more, before being fattened off.[25] Grain, on the other hand, ripened only once and had to be harvested then; poor storage facilities limited the length of time it could be kept without loss from vermin or damp.

A spell of bad weather rarely affected livestock production in the same way that it was capable of wiping out an otherwise successful crop of corn, but extreme weather conditions over a lengthy period could bring serious losses that would

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[20] PKAC, MS100/963.
[21] Gibson and Smout, *Prices, food and wages*, 7.
[22] A flock of ewes, wethers and lambs totalling in excess of 160 sheep was kept by Elizabeth, Countess of Strathmore, at Castle Lyon. NRA(S) 885, 50/6/25 and 148/5/41-55 (1713-22).
[23] Finished cattle: mature cattle, ready for slaughter and consumption.
[24] Accounts of the cattle and young stock at Castle Lyon *circa.* 1720 show the milk cows to be calved annually. NRA(S) 885, 50/6/29 and 30 (1720-21).
[25] NRA(S) 885, 91/7/4(1).

affect breeding cycles for several years. The overall character of cattle production, unlike that of cereals, was long-term. A. J. S. Gibson and T. C. Smout report that over the span of the price revolution, inflation of cattle prices was substantially less than that for grains and, in contrast to the short-term fluctuations recorded for grain, describe the seventeenth century as best seen as a period in which cattle prices 'undulated'.[26]

The market for Scottish cattle in the early modern period also differed in significant ways from that of grain. Cattle were traditionally traded for money to a much greater degree than victual. In an economy desperately short of specie, grain often acted as a substitute currency with the system of county fiars striking the rate of exchange. Compared to grain, beef was also much more expensive. Gibson and Smout suggest that 1,000 calories of beef would buy roughly 5,000 calories of oatmeal at this time.[27] Consequently, subsistence peasants and those on low incomes whose main currency was their own produce or labour and who - at least in rural areas - were themselves paid to a large extent in kind, did not eat beef or other meat in any quantity. (Injured or diseased animals unfit either for sale or the tables of the great and good, were killed for the use of servants.[28]) The consumers of beef in Scotland were, in relative terms, the affluent.

Throughout the seventeenth century the principal market for Scottish cattle was England where they were able to draw payment in much-needed sterling.[29] Although a great deal of grain in the second half of the seventeenth century was exported, only in a few exceptional years did the demand and prices gained abroad make this a preferred market, as opposed to an outlet for surpluses.[30]

The expression of rent in kind also provides a detailed description of an estate that a money-equivalent could not. Rentals for the baronies of Errol and Inchmartine drawn up in 1634 and 1650 respectively, not only give the value of the estates both

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[26] Gibson and Smout, *Prices, food and wages,* 194.
[27] A. J. S. Gibson and T. C. Smout, 'Scottish Food and Scottish History, 1500-1800, in R. A. Houston and I. D. Whyte, (eds.), *Scottish Society, 1500-1800* (Cambridge, 1989), 82.
[28] NRA(S) 885, 148/5/27 (1716).
[29] Smout, *Scottish Trade*, 212-5.
[30] See Chapter 4.3 below.

in total as well as possession by possession, they are also a comprehensive record of their nature and diversity.[31]

In the case of the barony of Errol, the rent of the prime land of the Maynes of Errol, was limited (outwith customary services) to wheat, bere and meal, plus kane fowl. In contrast, the grain-rent for the holdings situated at Myreside - one of the lowest lying areas of the Carse of Gowrie and still wetland centring on a small stretch of water at the end of the eighteenth century - comprised only a few bolls of bere and oats; the principal rent there being assessed in the form of money for grazings plus large quantities of ducks and geese.[32] The holdings at Dalleallie, bordering the river Tay, had rent measured in salmon as well as in grain. The 'grasse houses' in the village of Errol comprised only a house and yard; their rents were recorded in varying combinations of kane fowl, money and linen cloth.[33] In contrast, the rents of the higher status 'stone houses' were assessed only in money. The terms in which the rental was written provided a clear and detailed picture of the estate, the nature and diversity of its assets, the presence of a substantial village, a variety of occupations and an established linen manufactory. It also showed that the main value, however, clearly rested in the quantity and quality of its arable ground (the grain rents of which, at contemporary prices, have been given above) against a total figure of just under £500 (approximately 4%), derived from pasture.

Although Inchmartine adjoined the barony of Errol, a study of its rental shows that in a number of respects, there were distinct differences between the two. A much greater proportion of Inchmartine was in grassland. Rent derived from extensive hill pasture and low-ground wetland grazings was valued at £2,144 and equal to 35% of the total victual rent (when costed at an average figure of £6 per boll). The lack of a river frontage was reflected by the absence of both fishing beats and salmon. All the possessions recorded included some cultivated ground or pasture, indicating the universal involvement by tenants in farming and, despite the size of the estate,- the absence on it of any large, nucleated village. Half the total number

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[31] PKAC, MS100/963;NAS, GD26/5/248.
[32] Donaldson, *General View of the Agriculture of the Carse of Gowrie,* 34.
[33] Traditional low status houses found across the Carse of Gowrie prior to the nineteenth century. The walls of these cruck-framed buildings were of clay or divots and the growing grass of the turfs with which they were roofed gave them their common name.

of holdings listed in the rental, however, had a proportion of their rent assessed in linen cloth and demonstrated the ubiquity of this manufacture in the area.

The advantages of the systems of assessing and expressing rent in terms of kind were demonstrated by their longevity. They were practical and reflected with accuracy not only the full value of agricultural production on an estate but also the nature of it, together with any other assets and income.

Although the assessment and the expression of rent had close associations, they were quite separate matters; equally discrete was the form in which rent was paid. To conflate the three issues is to obscure the individual role played by each and be in danger of opening the door to the assumption that the way in which rent was expressed in tacks and on rentals necessarily reflected the way in which it was paid.

The manner in which rent was paid had considerable consequences for the way in which the internal economy of an estate worked. In addition, the payment of rent in kind as set out in leases and recorded on rentals, if enforced, was a very powerful tool by which landlords were able to control the farming activities and the marketing options open to their tenants. Records from the period studied reveal much about the way in which increasing commercialisation, the expanding market place and the need of the nobility for money, combined to erode some of the more restrictive strands in the web of feudal control.

An example of the manner in which strict adherence to the clauses of tacks could strangle the ambition and freewill of tenant farmers were the stipulations – typical of the period - made in the tack between William Blair of the estate of Kinfauns and James Smith, his tenant in the possessions of Langley and Craighead.[34] (This holding probably extended to well over half a ploughgate of arable land.) Smith was required to pay a total of fourteen bolls of bere and fourteen bolls, two firlots and two pecks of meal as his principal rent; all his grindable corns were to be taken to the Mill of Kinfauns. The rule of thumb for the level of grain rent levied in unimproved and pre-Improvement agriculture was a third of the produce. (Evidence from the Mains of Castle Lyon from the 1670s shows that the basic yields achieved at that time averaged in the region of only three to one and often fell

below that ratio.[35]) Rent and seed, therefore, accounted for approximately two-thirds of Smith's total arable production. Much of the remaining third - possibly less than ten bolls in quantity and minus the multures payable to the miller for their grinding - was needed to provide the staple grain and meal that supported his family and supplemented livestock rations.

With margins so tight, the necessity of producing the required amount of the appropriate crops to cover the rent, together with sufficient seed corn for the following year, effectively restricted the tenant, not only in the type and variety of crops that could be grown on his possession, but also in the proportion in which they were to be grown. The risks that attended the disruption of existing rotations and cycles of planting left little scope and less incentive to try new ideas or to allocate land for the growing of cash crops such as wheat or lint.

Paying rent in strict accordance with the victual stated in their leases limited the ability of tenants to develop markets for their crops. In the case of tenants of lesser holdings in normal years, only a very small amount of grain would be left over for sale after the requirements of rent, seed and maintenance. In a rural and subsistence economy, farm-gate sales would be limited and the competition at local markets and fairs from neighbours selling the same staples would have been fierce. Small consignments put the seller at a disadvantage when negotiating with merchants. A tenant trading quantities that included the proportion required for the covering of his or her rent, however, would have a much larger amount with which to bargain.

Grain rent paid 'in-kind' also restricted the ability of tenants to make gains and accumulate capital in good years. In years of above average grain prices, rent levied as a fixed amount of money represented a smaller proportion of a tenant's gross income than if it had been levied in victual and so offered an opportunity to maximise profit. For example, to pay a rent of £240, a tenant selling grain at an average of £6 per boll would need to sell forty bolls. In a year of above average prices, say £8 per boll, he or she would need to sell only thirty bolls to make up the rent money. In years of low prices a larger amount of grain would have to be sold

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[34] PKAC, B59/38/1/3 (1672).
[35] See Chapter 4.4, below.

to meet the rent, but low prices normally reflected a general surplus and it is likely the tenant would in any case have more grain available for sale. In years of low yield when prices were high, the tenant was less likely to get into arrears than under the system where payment was in kind and where tenants falling short were obliged to pay off overdue rent in subsequent years in money, but at the high price that prevailed in the year of shortage.[36]

Although when rent was paid in kind the balance of the benefits was with the landlord, there were also disadvantages. Grain prices founded on the lottery of a weather-dependent market meant that an estate owner did not know in advance how much revenue he or she would be receiving from rents. Time and trouble had to be spent finding buyers for large quantities of grain of uncertain quality in a market that was frequently flat.[37] Investment had to be made in good and secure storage facilities. Money was a much more flexible commodity and infinitely more easy to carry and spend than grain.

However, there was no simple choice for landlords in the second half of the seventeenth century and early part of the eighteenth century to opt either for retaining a tight and feudal level of control over their lands and tenants by insisting on rent paid in kind, or embrace the financial advantages that a commercialised economy and an independent tenantry could offer. There was not sufficient specie in general circulation to cover the full value of grain rents and, as discussed above, the level of fluctuation in grain prices made the setting of rent for arable ground in terms of money at an accurate level, on any other than an annual basis, extremely difficult if not impossible. Compromises had to be made even by modernising and commercial-minded lairds.

One of the earliest incidences so far found of cultivated land in the Carse of Gowrie being let for a stated amount of money as opposed to victual, was in 1706 on the Hay of Leyes estate in the parish of Errol, when fourth parts of the infield and

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[36] I. D. Whyte and K. A. Whyte, 'Continuity and change in a Seventeenth-century Scottish Farming Community', in *Agricultural History Review,* Vol. 32 (1984), 166. See also NRA(S) 885, 54/1, 64/1 and 190/1: Castle Lyon Compt Books 1671 – 1705.

[37] The large number of seventeenth century leases that specify that grain paid as rent must be of 'merchant' quality, suggests the temptation on the part of the tenants to try and fulfil their obligation with their poorest corns and keep the best for themselves. See Chapter 4.3, below.

outfield of Thorniebush was let to Andrew Adam for £31 5s, for a period of seven, nine or thirteen years.[38] In an attempt to deal with the vagaries of the economy while allowing some security of tenure, the tack allowed the tenant to remove, if he so desired, at any of the specified terms. The leases that survive from the Leyes estate dating between 1694 and 1752 do not, however, reveal any certain pattern with regard to the expression of rent on cultivated land. Of nine leases pertaining to arable ground and dated prior to 1730, five give the rent in money and four in victual. Of eight leases dated between 1730 and 1740, four express the arable rent in money. Between 1741 and 1752, however, all seven surviving leases give the rent on arable land in terms of victual. After this time there was a change in estate policy with farms subsequently being let by roup to the highest bidder.[39]

George Hay, proprietor of the Leyes estate for most of the first half of the eighteenth century, gained a reputation within the Carse of Gowrie as a successful innovator and early Improver.[40] The impression given with regard to the nature of the tacks he set is of a desire to embrace the advantages to the landlord and opportunities opened to the tenant offered by commuted grain rents. However, the limited extent of the experimentation suggests that the market and prices during the first half of the eighteenth century were, overall, neither good nor consistent enough to sustain the commutation of grain rents on either a universal or permanent scale.

The full-scale conversion of rentals in Lowland Scotland has been identified as starting in the 1730s, with the vast majority occurring between the 1740s and 1760s.[41] But the problems presented in setting the rent for arable land in money rather than in victual were not entirely solved by the expanding economy, better marketing opportunities, increased prices and the improved production achieved even in the later eighteenth century. The inherent difficulties meant that even after grain rents were converted on paper it did not necessarily mean that they were entirely so in fact.

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[38] SAUL, MS36220/876.
[39] SAUL, MS36220/908,909 and 910 (1768-1771)
[40] Donaldson, *General View of the Agriculture of the Carse of Gowrie,* 12; PKAC MS97/2, Letter from R. Mackintosh to Thomas Hunter, Glencarse, (1801).
[41] Devine, *Transformation,* 23.

The declaration by George Paterson in the extract from the *OSA* quoted above, that his tenants '... pay their rents in money and victual only', demonstrates that even by the 1790s an enlightened landlord found it necessary to compromise and have a proportion of rent paid in money and a proportion in grain. Donaldson, also writing in the 1790s, indicates that at that time it was usual in the Carse of Gowrie for rent on arable ground to be paid in a combination of grain and money:

> The rent generally stipulated is one half boll of wheat, one half boll of barley, and about twenty-five shillings in money for each acre. The grain is paid about the beginning of February, and the money rent at Whitsunday, thereafter.[42]

In the 1820s, many farmers in the district found it impossible to meet rents that had been set at the time of the high prices prevailing during the Napoleonic wars. A solution agreed between a number of landlords and tenants was the re-assessment of their money rents in terms of victual; this was then converted into money at the rate of the highest fiars. An alternative remedy employed was for the tenant to pay half of his rent in money as stipulated in his lease and the other half converted back into a grain-rent.[43] A similar system was employed by Patrick, Earl of Strathmore a century and a half earlier when, in 1680, he re-set the land on the west side of the Burn of Dronlaw in the parish of Lundie, half in money and half in victual.[44]

As previously stated, enforcing adherence to the payment clauses of a tack gave landlords enormous control over the farming activities of their tenantry. However in practice, in the Carse of Gowrie, evidence shows that notwithstanding the fact that in the second half of the seventeenth century the rent of arable ground was traditionally expressed in ferme, there was a good deal of flexibility employed with regard to the method of its payment. A study of estate account books reveals evidence of a very pragmatic approach to the manner in which rent was paid.

On the Castle Lyon estate, rentals from the second half of the seventeenth century and the first half of the eighteenth century record the rent payable on cultivated

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[42] Donaldson, *General View of the Agriculture of the Carse of Gowrie,* 10.
[43] A. Gorrie, 'On Grain Rents', PKAC, Stewart of Annat, MS115/24 (*c.* 1840).
[44] NRA(S) 885, 51/1/4 (1).

ground in terms of victual.[45] However, the 'Compt' books recording the payment of rent reveal that payment in kind was not insisted upon and that the accounting system incorporated a great deal of ingenuity that enabled the internal economy of the estate to work effectively in the absence of abundant specie. They also show that the estate encouraged payments to be made in money by tenants rather than in kind - albeit on terms laid down by the estate.

'Compt' books for Castle Lyon covering most years from 1671 to 1705 are extant.[46] As early as the book for 1671, it is declared that it was the habit for the majority of the wheat payable in rent by the aikermen to be sold by them direct to merchants.[47] The majority of the wheat payable in rent by the husbandmen on the large farms, however, tended to be paid in kind. The sale of the large quantities of wheat produced on the estate was its single most important source of income. In contrast, almost all the bere payable as rent was in practice sold by tenants to the local brewers who accounted for the grain, in cash, to the estate. Brewers who were tenants of the estate also 'bought back' their own rent bere. A reduction in price was given to those who paid by Michaelmas, some six weeks earlier than Martinmas when rents were traditionally due. In 1714 the reduced charge to the brewers was 10 merks per boll, but any who did not pay against that time, were to pay £7 per boll.[48]

As was the usual practice on Carse of Gowrie estates, a money-equivalent per boll for the various grains was fixed each year and used extensively for internal accounting purposes. As already stated, where rent was in arrears, the undelivered bolls were normally charged at the market price in the year in which the rent fell due. Only in periods of extreme dearth, when prices remained very high, was new-crop grain acceptable as payment.[49] The money-equivalent rates were also used in reckoning the value of victual given in payment to workers and in keeping account of the many and various in kind transactions that occurred during the year. These internal accounting rates were, in general, considerably higher than those struck by

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[45] NRA(S) 885, 51/2/1 (1655); 53/2/1 (1712); 160/3 (1759).
[46] NRA(S) 885, Boxes 54, 64 and 190.
[47] The grain rent of the 'toun' acres of Longforgan consisted entirely of wheat. NRA(S) 885, 64/1 (1671).
[48] 10 merks = £6 13s 4d. NRA(S) 885, 53/1.
[49] NRA(S) 885, 54/1/8 (1698).

the Perth fiars court.[50] On Lord Kinnaird's estate at Drimmie, rates between 12% and 25% above the fiars rate are recorded; on Seaside the rate was sometimes as much as 50% above.[51]

In 1691 yields on the Mains of Castle Lyon were high.[52] This must have been quite universal, as the 1691 county fiars prices set in Perth for bere and wheat were modest, being respectively £5 0s 0d and £5 6s 8d per boll.[53] Patrick Moreis, as well as tenant of two ploughgates of land on Castle Lyon, was also a brewer and, in that as in most years, he 'bought back' all twenty-eight bolls of the bere portion of his grain-rent together with a proportion of his wheat rent.[54] The price he was obliged to pay to the estate in lieu of this grain in 1691 was £8 6s 8d per boll for his bere and £10 per boll for his wheat, 67% and 87% above the Perth fiars, respectively. He also purchased the bere-rent of another tenant and was charged by the estate for this at the rate of £9 per boll, 80% above. (These rates suggest that the local market and certainly that operated by the estate itself differed significantly from the nature of the wholesale market reflected in the Perth fiars.) In 1691 only twenty of the 225 bolls of bere-rent payable by the estate's tenants were paid in kind, their grain being purchased by local brewers. This was not a year of general shortage and the level of tenant debt was quite low. The six tenants farming one ploughgate or above at Castle Lyon all paid their rent on time, none owed money from previous years and two stood in credit - Patrick Moreis to the tune of £48 4s and John Lyon, also a brewer, to £101 4s 10d.[55]

A small but telling example of how specie was drawn from tenants and servants on Castle Lyon into the coffers of the laird was in respect of the year's fee of £14 13 4d owed to a goadman, James Baxter.[56] Instead of being paid in money by his employer, Baxter received a cow worth £15 from James Anton, a tenant on the estate. £15 was subsequently deducted from Anton's rent. James Baxter had then

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[50] There are no published fiars prices for Dundee or Forfar during this period.
[51] PKAC, MS100/1087; NAS, GD316/10/VII/59.
[52] See Chapter 4.4: 'Crop yields', below.
[53] Gibson and Smout, *Prices, food and wages,* 104 and 112.
[54] The term used in Castle Lyon compt books to signify that grain-rent had been submitted in money at the current rate set by the estate, rather than in kind.
[55] NRA(S) 885, 190/1/23.
[56] Goadman: oxen driver.

to give the overpayment of 6s 8d back to the estate in money, plus a further charge for the grazing of the cow.[57]

The accounts of the diverse ways in which tenants met their rents give an insight into the way in which the internal economy of the estate operated. Sample extracts from the 1698 and 1705 rental books are given in an appendix at the end of this section. All commodities, from wages to calves and from work carried out by masons to the ale supplied for the ploughmen, were given a monetary value. A detailed list of all transactions, debits and credits, were kept throughout the year and totalled at the annual 'compting'. Tenants were frequently ordered to meet the wages of estate workers and servants; the amounts to be paid out for this purpose were deducted from their rent.

A policy implemented to deal with arrears in rent was to transfer any amount resting by one tenant to a bond drawn on another, financially stronger, tenant. The debt became then not to the estate, but to a fellow tenant. This device serves to illustrate the change in the relationship between a laird and his followers that had developed by the end of the seventeenth century. (Or, as in this particular case, between a lady and her tenants as, from 1696 to 1708, the Castle Lyon estate was in the hands of Helen Middleton, Countess Dowager of Strathmore, the widow of Earl Patrick.) As commercial attitudes strengthened, the vertical strands of society that had their roots in a feudal past were necessarily weakened while the ties that bound the lower echelons of society to each other increased. The nobility steadily widened the divide between themselves and their tenants and servants.

The commutation of grain rents into money has long been recognised by historians as an important aspect of the process of commercialisation and modernisation in pre-Improvement agriculture.[58] T. M. Devine states that:

> the most notable development in the first half of the eighteenth century was the erosion of 'in kind' elements in rentals suggesting that

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[57] NRS(S) 885, 53/2/17.
[58] See for instance: Whyte, *Agriculture and Society,* 192-4; and Dodgshon, *Land and Society,* 255.

> increasing numbers of tenant farmers were facing the market directly rather than through landlord intermediaries.[59]

He argues that until this time, the vast majority of tenants remained locked within a broadly subsistence system because they were insulated from the market as a result of traditional tenurial relationships with their landlords.[60]

It is argued here that the issues surrounding 'in-kind' rents were much more complex. The way in which rents were expressed on rentals and the amount payable described in the clauses of tacks, did not necessarily reflect the manner in which they were, in practice, paid. The erosion of in kind elements in rentals in the first half of the eighteenth century reflected the general modernisation (including systems of accounting) and the expansion that was taking place in the economy as a whole. The commutation of grain rents however was, at least in the Carse of Gowrie - a district generally considered to be among the more commercially advanced areas of rural Scotland - a process fraught with many practical problems that caused it to extend over a much longer period. The practice was present, where and when prevailing circumstances allowed, in the second half of the seventeenth century, but except for limited periods, did not become entirely workable until the middle decades of the nineteenth century.

It is apparent from the Castle Lyon 'compt' books and references in the records of other estates, that throughout the second half of the seventeenth century the tenants on the estate, including the smallholders, were actively engaged in marketing their produce outside the economic confines of the estate. The money with which they were able to make their various payments to the laird had to be found elsewhere. The practice general on estates across Lowland Scotland of insisting that arrears of rent be paid in money rather than victual also indicates that tenants commonly had direct contact with merchants for the sale of their grain. Smallholders and husbandmen alike were involved in the marketplace regardless of the manner in which the rent on their arable land was expressed.

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[59] Devine, *Transformation,* 22.
[60] Ibid., 44.

APPENDIX TO CHAPTER 4.2

Selected examples from the Castle Lyon 'Compt' Book for the crop year 1698. (NRA(S) 885, *Papers of the Earl of Strathmore,* 54/1/8.)

ROBERT GRAHAM – an aikerman farming 8.5 acres of old toun land.
Rent: 8 bolls wheat, 12 kane fowl, 3 hooks at harvest or one stone of lint or £4 money in lieu of each, Tax money: £3 15s 0d.

Paid 3 bolls 1 firlot wheat to the grinter, rests 4 bolls 3 firlots which was paid to me in several times by money at £16 per boll. The capons is paid and two over is 16s. He has paid 8 poultrie, rests eight, is £2 which being added to his hooks, Fees and tax money is £17 15s. Whereof paid by the balance of his capons 16s. And for a calve £1 6s 8d. So rests £15 12s. 4d. To complete his charge, for which there is a precept drawn to George Greenhill towards the payment of his servants fies.

GEORGE DICKSON – entered to one plough of land in 1698, following the widow of James Jobson.
Rent: 12 bolls wheat, 12 bolls bere, 4 bolls oats, 12 bolls meal, 24 kane fowl, School money: £1.

Paid to the grinter 3 bolls 2 firlots 2 pecks 2 lippies, wheat. Rests 8 bolls 1 firlot 1 peck 2 lippies at £16 per boll, is £133 10s. He paid his bear and meal to the grinter and his oats to David Lyon in part of the stipend. His poultrie is paid for crops 98 and 99, he being the entering tenant all to 3s. 8d., which being added to the balance of his wheat and school dues comes to £134 13s. 8d. Followes the payments, first by two old oxen for two bolls of wheat is £32 and by my tickett produced, £66 3s. 4d. Which falls short of the charge in £36 4d. Which is paid to David Lyon in parte of what I owe hime, conform to his last discharge. So cropt is equal.

ALEX CRAW – a mason, he possessed two ploughs of land and was married to the daughter of the preceding tenant (Alexander Watson); previously the tenant of a smallholding at Castle Lyon.
Rent: 24 bolls wheat, 24 bolls bere, 6 bolls oats, 25 bolls meal, 48 kane fowl, School money: £2.

He delivered to the grinter 16b. 1f. Wheat rests 7b. 3f., is £124. He paid his bear and meal to the grinter and his oats to David Lyon in part of the stipend. He has paid 41 poultry, paid 3 chickens, is £1 11s. 4d., which in all is £127 11s 4d. Where of paid to Andrew Wright for completing work done at Auchterhouse, £100, and by another precept to David Lyon for paying of coals for which he's compted £20, and a third precept to David Butter for completing his fie, £24. So the payments with £1 2s. Allowed in part of the shipherds house for John Lyon's roum. Exceeds the chairge in £25 10s. 8d. For which there is a precept drawn on David Lyon for the payment thereof.

ALEX CROOK – a brewer, farms a smallholding comprising some tiended land and some outside the toun.
Rent: 5.25 bolls wheat, 2.25 bolls bere, 15 kane fowl, 2 hooks at harvest or one stone of lint or £4 money in lieu of each, Tax money: £2 10s, School money: 5s 6d.

Paid his wheat to the grinter. He bought his bear at £11 per boll, he also bought 17 bolls 3 firlots 3 pecks delivered by the tenants at the same price which comes to £222 0s 4d. He produces my receipts for 6 poultrie, rests 4, is £1 which being added to his capons, hooks fees, schoolmasters dues and tax money comes to (including his bear above mentioned), £236 9s 4d. Followes the payments first by our receipt, £220. He produces my ticket for a barrel of ale and a young swine, is £4 12s., by a hook in harvest '98, £4. He gave to the ploughs for tilling in the Mains preceeding the date hereof, 61 pints of ale, is £6 2s, and in money £1 15s 4d. Which completes his charge so cropt is equal.

WILLIAM COUPER – possesses 4 acres of infield, 0.5 acres of meadow and 2 acres of carse-land.
Rent: 4.06 bolls wheat, 2.31 bolls bere, 2 bolls meal, 12 kane fowl, £13 money rent, Tax money: £2 10s 0d, School money, 5s 6d.

Paid to the grinter 2 bolls 2 firlots 1 peck 3 lippies wheat, rests 1 boll 2 firlots and 1 lippie. At £16 per boll is £24 5s. He delivered his bear to Alex Crook for which he holds compt and oats for his meall to the grinter. His poultrie are paid and capons all to £1 1s 4d, which with the balance of his wheat, silver duty, tax money and schoolmaster's dues make his charge in all to £41 1 10d, whereof paid conform to my own receipt £24, and in money £17 1s 6d. Which compleets his charge, so crop is equal.

GEORGE COCK – possesses half the tenement at the west church style and half the adjacent yard, 2 acres of the Byreflat infield and 1 acre of the outfield.
Rent: 2 bolls bere, 2 bolls meal, 10 kane fowl, £6 money rent, Tax money: £1 5s, School money: 3s 6d.

He paid 1 boll bear to the grinter and the other to Alex Crook for which he holds compt. He paid his meall to the grinter. He has paid chickens for seven poultrie all to 1s. 4d., which being added to the rest of his poultrie, capons, tax money & schoolmasters dues comes to £8 19s 8d. Which goes to his account of mowing. (Mowers account: resting from 97 compt book is £9 2s and in this accompt is £8 19s 8d, which comes to £18 0s 8d.) Where by paid by his proportion of mowing is £6 and to David Lyone £7 for which he holds compt and by 2 days work in the orchard £1. His meall and cheese being payed. He rests £4 1s 8d for which Gilbert Blyth compts.

Selected examples from the Castle Lyon 'Compt' Book for the crop year 1705. (NRA(S) 885, *Papers of the Earl of Strathmore*, 54/1/14.)

ROBERT GRAHAM – aikerman, farming 8.5 acres of old toun land. Rent: 8 bolls wheat, 24 kane fowl, 3 hooks at harvest or lint at £4 per stone, Tax money: £3 15s 0d, School money: 5s 6d.

He paid his wheat to James Nairn [compter], cropts 1704 and 1705 for which he holds compt. He paid in 34 poultrie which clears his poultrie and capons for the two years to £7 9s, which added to his hooks fies, tax money and school maintenance makes his charge £39 10s. Paid by a hook in harvest 1704 - £4. By a receipt of Mr Nairns, £16 5s, by £20 to Isabell Greenhill as a part of her fies, which clears the charge and 15s. more which shall be allowed next compting. So cropts are plus equal.

GEORGE DICKSON - possesses one plough of land. Rent: 12 bolls wheat, 12 bolls bere, 4 bolls oats, 12 bolls meal, 24 kane fowl, School money: £1.

He paid his wheat to James Nairn crops 1704 and 1705. He retained his meal at £5 per boll of crop 1704, he likeways retained his bear at 10 merks for crop 1704 and his bear £6 6 8d 1705 and paid his meal to Jas Nairn for the said crop. He paid his oats to the minster for the said two crops as a part of his stipend. His poultrie are paid by poultrie, his victual being added to the school dues, his charge comes to £218 Scots, whereof paid to Thos Crombie conforme to our precept £17 6s. To William Nairn for compleating his fies £20 19 2d. To William Key by order £2 18s and to us conforme to our receipts - £54 10s and to James Nairn £86 10 4d for which he is to hold compt, by allowance of £2 5s for pleugh meall and £3 16s for his own and Alexander Crows pleugh ale and £3 for ale to our servants, which overpays his charge in £1 4s 6d which goes to his discharge. (See Compt book 1706), so cropt is equal .

DAVID GILL - farms 'the west most roume now in the toun', 3 acres of carse-land and rents 1 acre of meadow, he also works as servant to George Greenhill (head gardener at Castle Lyon and in charge of the orchard and tree nursery).
Rent: 8.5 bolls wheat, 6.63 bolls bere, 3 bolls oats, 19 kane fowl, money rent £1, 2 hooks at harvest or one stone of lint or £4 money in lieu of each, Tax money: £3 13s 4d, School money: 10s 0d.

He paid his bear crops 1704 and 1705 to Barbara Monorgan, he paid in his wheat and meal to James Nairn for which he holds compt. He gave in our tickets for 42 poultrie, which clears his poultrie and capons to 14s. Which added to his hooks fies, tax and meadow money and school maintenance dues, his charge is £45. By our receipt £8, by a receipt of James Nairns, £8, by money instantly, £3 which particulars fall short of his charge by £22 0 8d. Which is allowed to George Greenhilll in the account of his servants wages. (page 51) [of Compt book] *So crop is equal.*

JANET GILL – the widow of John Paterson, farms 5 acres of tiended land, 3 acres of carse-land and rents 0.5 acres of meadow.
Rent: 5 bolls wheat, 3 bolls meal, 18 kane fowl, two hooks at harvest, lint or £8 in money, 2 hooks at harvest or one stone of lint or £4 money in lieu of each, £5 money rent, Tax money: £3, School money: 5s 6d.

She paid her wheat and meall to James Nairn, crops 1704 and 1705. She paid 33 poultrie which clears her poultrie and 7 other which falls short her capons in £3 0 6d and which added to her hooks fies, meadow and tax money and school maintenance, the charge is £35 11 6d. Whereof paid by a hook in harvest 1704, £4; by 2 stone of lint conform to our receipt £10 13 4d. By Jas Nairn's receipt, £6. By money instantly £14 18 2d, which clears her charge so crop is equal. And she has cleared her rests in the last compt book by our retired [?] precepts on George Greenhill and Mungo Finne.

ROBERT COCHRANE – possesses 3 acres of old toun land and rents 0.5 acres of meadow.
Rent: 3 bolls wheat, 9 kane fowl, 2 hooks at harvest or one stone of lint or £4 money in lieu of each, £5 money rent, Tax money: £1 10s, School money: 2s 6d.

He paid his wheat to James Nairn for cropts 1704 and 1705, he hath paid 17 poultrie which falls short of his payment of his capons and poultrie £1 11 6d, which being added to his hooks fies, meadow money, tax money and school maintenance and his restsin the last compt book, his charge comes to £32 2s 2d, whereof paid by a hook in harvest 1704 £4, more £2 for casting the ditch at the east meadow, by a compt of fold dykes 1705 and 1706, measured and attested by John Lyon. £25 2 6d, and in money 19s 8d, which compleats his charge so crop is equal.

JOHN SHEEPHERD – possesses 2.5 acres of tiended land.
Rent: 2.5 bolls wheat, 7.5 kane fowl, 2 hooks at harvest or one stone of lint or £4 money in lieu of each, Tax money: £1 5s 0d, School money: 2s 0d.

He paid his wheat for crops 1704 and 1705 to Jas Nairn for which he holds compt. The hooks fies, tax money and school maintenance make £18 14 8d, to which adding his rest in the last compt book his charge is £25 2s, Whereof paid by the overpayment of his capons and poultrie, 5s; by a hook in harvest 1704, £4. To Jas Nairn £6, by a year and a half's wages for being Goadman to one of the ploughs in the Mains at 22 merks per year, £22, which clears his account, and the balance due to him is found to be £7 3s. This is allowed in parte of his entry.

4.3 Cereal prices and the development of the grain market

In the period upon which this thesis focuses, cereal production was by far the largest sector of the Carse of Gowrie's economy. Throughout the majority of the years in question, however, the prevailing prices were low. This had implications for the development of the grain market, agricultural expansion and the district's economy as a whole. The fiars prices for Perth reveal that in the second half of the seventeenth century, the five-year average for a boll of oatmeal - the staple food - rose significantly above £6 on only two occasions: the early 1650s, and the late 1690s (see Chart 4.1, below). Fiars prices were struck according to the circumstances that reigned within their particular district. The Perth fiars court, which included the Carse of Gowrie in its jurisdiction had, however, also to take into consideration the prices and qualities of grain traded in its large Highland hinterland. Although there are many and serious difficulties to be confronted in attempting to compare prices from different areas, that go far beyond local conditions and varying boll weights, the prices struck at Perth are likely to be neither more nor less representative of the national picture than any other centre for which records are extant.[1] The lengthy and unbroken series that has survived for this court does allow the study of long-term trends.

There are particular problems in the use of fiars as a guide to market prices.[2] A major criticism levelled in this regard, is that much of the evidence taken by the fiars courts was given by merchants and middlemen and referred to large transactions; the prices set were thus inclined to reflect a wholesale rate rather than the retail prices likely to be faced by urban workers.[3] However, when trying to gauge the level of corn supply from producers, it is such large transactions and wholesale prices that are likely to provide the best guide.

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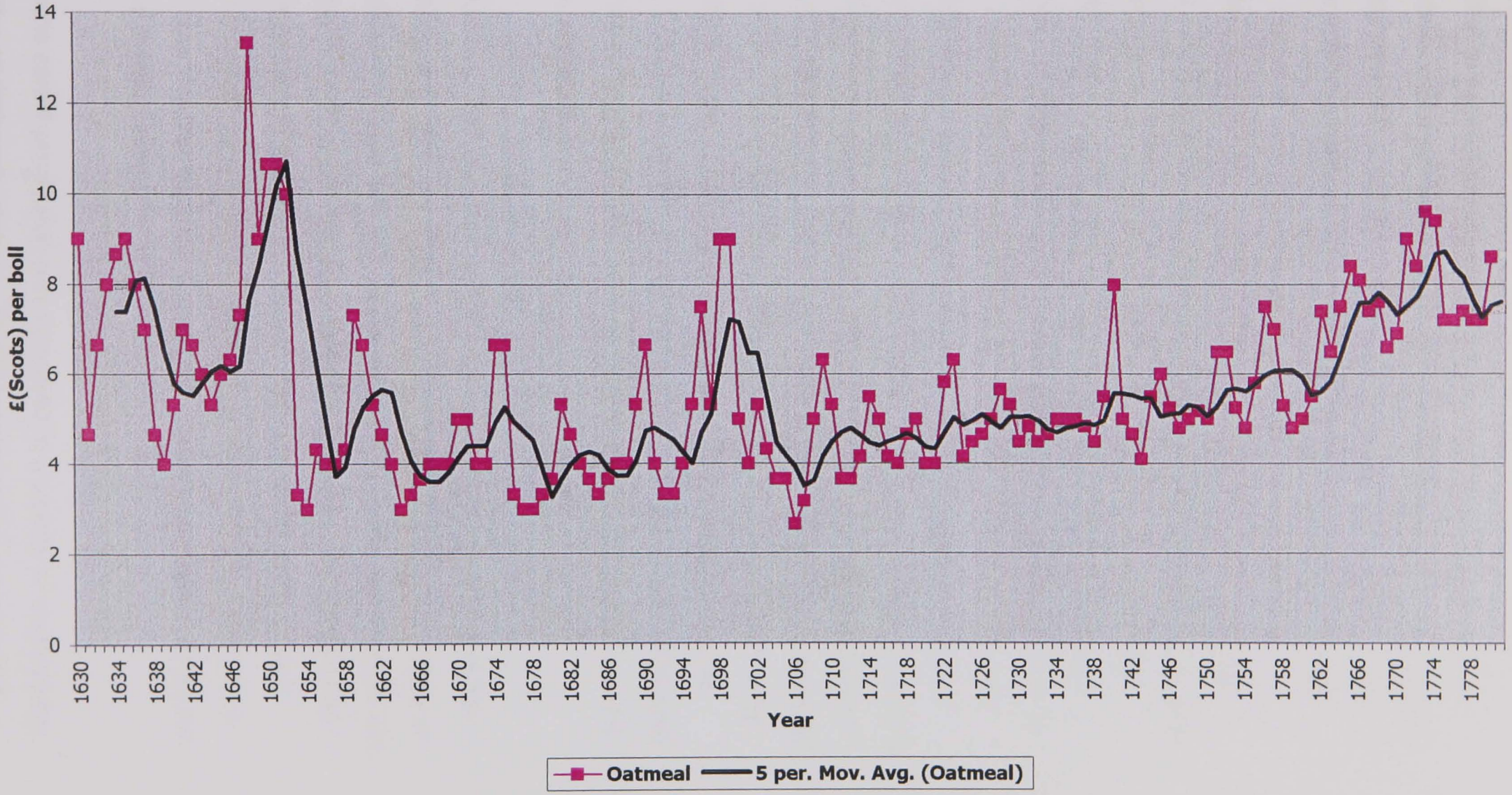
[1] See Gibson and Smout, *Prices, food and wages,* 66-77.
[2] *Ibid.*
[3] Note also the very different prices set by estates in respect of their internal transactions. (Chapter 4.2, above.)

Figure 4.1: Perth Fiars - Annual Price of Oatmeal with five-year moving average
Source: A. J. S. Gibson and T. C. Smout, *Prices, food and wages in Scotland, 1550-1780* (Cambridge, 1995).



The comparatively low fiars prices struck from the middle of the seventeenth century indicates that in spite of the shortages and dearths that did occur, in the majority of years there was a sufficient supply of grain to the local market. A direct correlation between the level at which the Perth fiars prices were struck and the level of crop yields achieved in the district is demonstrated in Chapter 4.4, below.

Figure 4.1 shows the annual fiars struck at Perth for oatmeal for the 150 years between 1630 and 1780 and the improving pattern of supply of this staple. Prior to 1653 the prices were generally high (above £6 per boll) and in the years 1648–1652, extreme, with plague, war, defeat and occupation adding to the vagaries dealt by the weather. From the mid 1650s to 1707 there is - with the exception of the late 1690s -an overall lowering of prices and a lessening in their year-to-year fluctuations. The highest price peaks endured for one or at most two years and these punctuated extended periods of very low prices. The average Perth fiars for a boll of oatmeal in the thirty-five years from 1661 to 1695 was £4 4s 10d compared with £6 15s 8d for the preceding 31 years from 1630 to 1660. In 1706 the price fell to an all-time low of £2 13s 4d. After 1707 fluctuations reduce even further whilst at the same time prices begin to follow a gradual upward trend that from 1750 increases steeply. (The price per boll of oatmeal for the five-year period 1696-1700 was £7 3s 4d; for the forty-year periods 1701 to 1740 and 1741 to 1780, it was £4. 14s 6d and £6 11s, respectively.)

The rise and fall in prices from one year to the next and the consequences of this must not to be ignored but, in terms of trend, the Perth figures indicate a supply of oatmeal to the wholesale market that across the second half of the seventeenth and the first half of the eighteenth centuries was increasingly stable. Throughout this period Scotland was also a net exporter of grain.[4] There must, therefore, have been an ongoing increase in agricultural productivity, a fall in the population or, a combination of the two. For the Carse of Gowrie and its environs, before 1700, the last appears to have been the case.

In the Carse of Gowrie cereal production was increased in a variety of ways during the second half of the seventeenth century. As is demonstrated in Chapter 4.4,

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[4] T. C. Smout and A. Fenton, 'Scottish Agriculture before the Improvers – an Exploration', *Agricultural History Review,* No. 13, (1965), 77.

below, there is evidence of a real increase in yields. Also, land previously uncultivated was being brought into production for the first time. Examples include the Fingask estate in Kilspindie parish, where a new farm of approximately one ploughgate was 'taken in' on the braes behind Fingask Castle and let to Thomas and George Cock in 1668.[5] Sir John Hay of Murie in Errol parish, let ground at the Mayn of Hill and at Raraes to Robert Duncan in 1683. The clauses of the lease indicate that this land had recently been cultivated for the first time and that oats and bere were the principal crops grown upon it. Over the space of the next four years the ground was to be improved by the tenant to a standard able to support a rent increase in excess of 33%, with 20% of the total to be paid in wheat. For his part the landlord undertook to erect upon the new farm a dwelling house, a cornyard dyke and sufficient barns, byres and stables.[6]

At Castle Lyon the area farmed by the aikermen and tenant smallholders was increased between 1671 and 1691 by an additional twenty-five acres of outfield and thirty-seven acres of carse-land - ground brought under cultivation for the first time. The total number of smallholders rose from twenty-nine to thirty-five and the average size of their possessions increased by almost a third, from 4.3 to 5.7 acres. At the same time substantial areas of existing outfield land was brought up to infield standard with a new mains farm of two ploughgates created on what had previously been outfield.

The overall performance of both the Carse of Gowrie's and Scotland's agriculture has to be considered in the context of the period. T. M. Devine has conceded that in 'meeting the needs of the time' there was, nationally, a steady improvement in the continuity of supply at prices that were consistently low.[7] This was against the background of a general and prolonged agricultural depression that extended across much of Western Europe between 1650 and 1750, where cereal prices were also low and real wages, in relative terms, high.[8]

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[5] PKAC, MS169/14/2/8.
[6] NAS, GD 316/8,.
[7] T. M. Devine, *Transformation,* 16.
[8] See, B. H. Slicker Van Bath, *The Agrarian History of Western Europe, A.D. 500-1850* (London, 1963), 206-220.

On the continent in this period, few innovations in farming technique were taking place. In Holland there was little reclamation activity and in Germany and Italy empty farms and uncultivated fields were to be found. Low cereal prices encouraged a conversion from arable farming to pasture with, in England, a significant expansion in animal husbandry. There was also in some areas a transition from agriculture towards rural industry.[9]

The principal cause of the agricultural depression that affected much of Western Europe at this time has been laid at the door of a fall in population.[10] It is uncertain to what extent there may have been a similar drop in Scotland's population in the same period. Prior to the hearth and poll taxes of the 1690s, figures can only be estimated. It is generally considered that in 1500 the total population of the country was probably in the region of 700,000. There was an increase throughout the sixteenth century and the first two decades of the seventeenth century before it stabilised, or possibly fell, under the pressure of dearth and famine in the 1620s.[11] As discussed in Chapter 2.8, above, war and plague in the middle decades of the century probably contributed to a decline in the population of a number of important urban centres that included Perth and Dundee. Prior to the famine of the 1690s, however, the rural population of the Carse of Gowrie seems relatively high.

The national population figure most favoured by historians for 1700 is *c.*1,100,000.[12] R. Tyson's calculation for 1691 of 1,234,575 is only slightly below that found by Webster in 1755.[13] These figures suggest that after 1700, across the country, there was only a slow recovery in the level of population and that incentives which might have promoted a substantial increase in population, such as a level of prosperity among a majority of the population sufficient to allow early marriage and a rise in birth rate, were absent.[14]

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[9] *Ibid.*
[10] *Ibid.*
[11] Whyte, *Scotland before the Industrial Revolution*, 112-5.
[12] *Ibid.*
[13] R. E. Tyson, 'Contrasting regimes: population growth in Ireland and Scotland during the eighteenth century', in S. J. Connolly, R. A. Houston and R. J. Morris (eds.), *Conflict, Identity and Economic Development* (Preston, 1995), 64-76.
[14] Whyte, *Scotland before the Industrial Revolution*, 112-5.

However, within the national picture, there were considerable differences from region to region and also in relation to the way in which the populations of some towns were expanding while others were in decline. Urban expansion was undoubtedly the most dynamic and single most important driving force behind agricultural improvement in the eighteenth century.[15] For economic growth to be sustained, the output per agricultural worker had to be increased to meet the needs of a rising number of town dwellers.[16] Subsistence agriculture might supply staple foods and commodities with reasonable adequacy to those engaged directly in it, but a stagnant farming system could not produce the surpluses required to fuel an expanding urban sector.

As noted in Chapter 2.8, the limited evidence that exists suggests that Dundee and Perth both suffered a dramatic fall, possibly by as much as a third, in the number of their inhabitants between 1639 and the 1690s. Only the substantial growth of Glasgow and Edinburgh maintained the overall size of Scotland's urban population in this period.[17] There was, however, a significant increase by the time of Webster's 1755 census of 17.3% in the urban population, against one of only 2.5% in the population as a whole.[18] This mirrors, to some extent, the experience of the Carse of Gowrie where a slight fall in population has been estimated between 1691 and 1755, against a major increase in that of both Perth and Dundee.[19]

The dramatic fall in grain prices after 1652, as marked by the Perth fiars, would seem to reflect the restoration of food production and supply after the war in tandem with the reduction in the populations of Dundee and Perth. Fiars struck in other centres across Scotland demonstrate a similar drop in the prices of the staple cereals from this time.[20]

A drop in population may reflect the limitations and inadequacy of the agricultural sector that supports it, but the low cereal prices that prevailed after 1652 suggest

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[15] Devine, *Transformation*, 35-41.
[16] M. Overton and B. S. Campbell (eds.), *Land, Labour and Livestock, Historical Studies in European Agricultural Productivity* (Manchester, 1991), 4.
[17] As defined by I. D. Whyte in 'Scottish and Irish urbanisation': the inhabitants of those towns with a population of 2,500 or above.
[18] Whyte, 'Scottish and Irish urbanisation', 18. This percentage is calculated using R. Tyson's population figure for 1691 and Webster's 1755 survey.
[19] See above: Chapter 2.8.

that food production and supplies were, after this time, in general more than adequate. The contraction in markets resulting from a fall in population would have represented an active disincentive to any substantial investment in agricultural production. The low prices ensuing from a fall in demand can also, however, stimulate an increase in efficiency and the introduction of technological improvements. It has been argued that the depression in grain prices that accompanied the end of a period of growth in England's population *c.*1650, prompted innovation and enterprise.[21] These same broad circumstances confronted Scotland's agricultural sector, but the platform from which they had to be addressed was that of a defeated and occupied country with a much smaller and less developed economy than that of her southern neighbour.

Not only were producers faced with poor local demand, there were also serious problems with regard to the shipment of grain to other centres, particularly in the period of the Interregnum. The war waged by Cromwell against the Dutch (1652-1654) and hostilities with Spain, placed the little that remained of Scottish shipping at risk, not only from both these powerful sea-going nations but also from the many privateers that thrived in times of disorder. In 1656, Tucker recorded only eighty ships of 25 tons burden or above in the whole country.[22]

The problems confronted in the 1650s by those trying to sell their produce and by merchants attempting to carry on their business are expressed in letters dating from 1656 written by Robert Preston in Edinburgh to George (later Lord) Kinnaird in Inchture. The difficulty in maintaining commercial relationships when lines of communication could not be relied upon are evident as he states that Kinnaird had been sent four letters that he had obviously not received. While grain prices in Haddington market were reported (as might be expected) substantially above the fiars struck at Perth in the February of that year,[23] Preston was resigned to the fact that Kinnaird probably would not find means to deliver any safely: 'If occasion of boats can be had I desyre some of your meall if it maybe without trouble, but

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[20] Gibson and Smout, *Prices, food and wages,* 84-129.
[21] J. Thirsk, *England's Agricultural Regions and Agrarian History, 1500-1700* (Basingstoke, 1987), 17-19.
[22] Smout, *Scottish Trade on the Eve of the Union,* 53.
[23] Oats and wheat were between 15% and 20% higher, bere at £8 per boll was almost 50% higher and expected to rise higher still.

otherwise let alone.'[24] In another letter responding to a request for a shipment of coals from Culross, he writes that there was no boat 'in all the bounds' and that Kinnaird must try among his friends in Dundee for one. Kinnaird was also berated for ordering boots from Edinburgh in such 'dangerous times', when their like could have been obtained in Dundee. Preston does report, however, that Kinnaird's servant had found a 'companie to goe always with' and so travel in more safety.[25] These letters present evidence of a country still suffering extreme dislocation, with produce to sell but without the means to transport it and also thick with displaced and desperate people.

While recovery was necessarily slow and many problems were to remain for Scottish trade through to the Union and beyond, trading circumstances improved as order was restored and ships became available.[26] Arable production increased and prices remained, for the most part, low. The ways in which large consignments of Carse of Gowrie grain was marketed and its destination, reflected the nature of Scotland's developing economy in the decades after the 1650s and the efforts that had to be made by those with grain to sell. Traditionally, estate owners in the east and including the Carse of Gowrie, sold their victual rents through merchants based in Dundee, Perth, Montrose, Edinburgh and Leith, with Leith and the Edinburgh area being the principal destination, or at least the first stop, for the grain.[27] Those with wider contacts could find markets in other areas. In the 1630s, the Earl of Errol, who held extensive estates in both Aberdeenshire and the Carse of Gowrie, sold the bulk of the ferme wheat produced in his barony of Errol, to the baxter burgesses of the city of Aberdeen.[28]

By the 1680s the picture was a great deal more diverse. One aspect of this was in terms of the destination of Carse of Gowrie grain. In good years there was a great deal to be disposed of and in spite of the continuing depression in cereal prices on the continent, a substantial export market was established. As well as the long-standing market for Scottish grain in Norway, shiploads were despatched to the Low Countries and France. These were not only consignments of grain purchased by

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[24] PKAC, MS100/20/1099.
[25] *Ibid.*
[26] Smout, *Scottish Trade,* passim.
[27] Whyte, *Agriculture and Society*, 228-234.
[28] NRA(S) 885, 112/7/39.

merchants to be traded on, but included speculative ventures undertaken by estate owners.[29] Agents and skippers were employed to obtain the best available prices for the ferme victual and to return, sometimes with the money or wood and iron from Scandinavia, but also with particular goods of a quality or at a price that could not be met in Scotland. In 1681, Patrick, Earl of Strathmore, in the midst of his rebuilding and refurbishment of Glamis, gave his agent Bailie Bower, specific dimensions for painted boards with mullers (mouldings) to go above the doors there. These were to be bought in Holland, along with as much lead as the proceeds of the shipment of grain Bower was accompanying, could purchase.[30]

Such shipments of grain could be quite profitable, but were by no means always so. After another voyage, also completed in 1681, the Earl complained that: 'Indeed we have lost near the one half of the stock by the pryce he [the Earl's agent] got in Holland.'[31] When the expense of undertaking these voyages is taken into account, the potential for loss was considerable, even without the hazard of piracy and shipwreck. The accounts for a voyage from Dundee to Dunkirk in the summer of 1684, made on behalf of the Earl by George Forrester, showed the total cost of shipping 215 razers of wheat, 285 razers of bere and 47 razers of pease, to come to £999 9s.[32] This included customs and shore dues at both Dundee and Dunkirk, mooring fees, porters, charges for measuring the victual, the fee to the skipper for its freighting, officer's fees for arranging and overseeing the loading, factor's charges for selling the corn in Dunkirk, Forrester's own commission and expenses, the cost of exchanging money and the interest on the money needed to finance the voyage.[33] On that occasion the total money received for the victual came to £3,649 10s. The prices at which the wheat was sold in Dunkirk were well above those struck at the Perth fiars for that crop, the bere price (sold with two months credit) was only a little above. However, with expenses deducted, the remaining balance was little different than would have been gained if disposed of in Scotland at the fiars prices. Providing that is, a home market for the grain could have been found.

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[29] DRAC, TD86/90, 'Compt of the Bear that went in David Woods veshell' (1682)
[30] NRA(S) 885, 198/5/1.
[31] NRA(S) 885, 62/6.
[32] Razer: equal to approximately four bushels.
[33] NRA(S) 885, 30/1/3 (6).

The shipments of grain were for the most part undertaken in the summer months. As well as the obvious reasons of a better chance of good weather and long hours of daylight in which to make the voyages, the home markets in all but the poorest years would have been pretty well exploited by this time. By June and July the current crop would be well set and there would be a fair indication, weather permitting, of the yields that might be obtained from the coming harvest. Producers and estate owners were likely, by mid summer, to have explored most market opportunities for their remaining old-crop and assessed the remaining options for the disposal of surpluses. In August of 1681, Earl Patrick wrote to his partners in the ship *The Lyon*: 'And as to the voyage you intend ... to Norway I believe it is better than to lay at home idle. If you think fit to send any malt, I think I have to spare, ...'.[34] The tone of the letter is not one of great expectation of profit.

As well as the establishment of large and regular grain sales to the continent, some consignments were also sent to London.[35] In Scotland, the growth of Glasgow made that town, by the end of the 1680s, a major market for Carse of Gowrie wheat. While baxters in Edinburgh were the principle purchasers of the bulk (approximately 200 bolls annually) of the Castle Lyon wheat crop at the beginning of the 1680s, the main outlet for this by the 1690s (approximately 250 bolls annually) was Glasgow.[36]

The continuing low grain prices affected the ways in which grain was marketed and sold by producers and the relationship between landowners - including the nobility – and merchants. It has already been noted that the traditional means of selling large consignments of grain was by estate owners or their factors negotiating quantities, prices, dates and delivery, directly with merchants, baxters, or for bere, brewers, with whom they had contact. Contracts were often in the form of legally binding and witnessed bonds that stipulated the amount, type and quality of grain, sometimes going as far as naming the farms from which it must come, and when

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[34] NRA(S) 885, 62/6.
[35] NRA(S) 885, 198/6/19 (1685).
[36] NRA(S) 885, 64/1/8 (1681); 62/2 (1690); 64/1/18 (1691). The impact that the growth of Glasgow had on Scotland's grain market in the early modern period is discussed in A. J. S. Gibson and T. C. Smout, 'Regional prices and market regions: the evolution of the early modern Scottish grain market' in *Economic History Review,* XLVIII, 2 (1995), 258-282.

and to where it was to be delivered by the vendor.[37] These bound the purchaser to a fixed price and the dates and form of payment. Substantial penalties well in excess of the agreed price of the victual were incorporated to cover the eventuality of either party failing to uphold their side of the bargain.[38] Such contracts were popular when grain prices were buoyant and merchants could be confident in their ability to dispose of the grain at a profit. In times of surplus and prevailing low prices merchants were less willing to commit themselves to the purchase of large quantities of grain at a fixed price, months in advance of its disposal and with the risks that attended this.

Such bonds were important to estate owners in that not only did they guarantee the sale of their grain at a known value, they represented a security against which those in need of money could obtain credit and loans. This, however, could be a two-edged sword. An estate owner who was heavily indebted and needing specie with which to meet interest payments might contract to sell his or her grain to a merchant and receive payment in advance of delivery, or indeed, in advance of harvest. If grain of the required amount and quality could not then be delivered, it placed the estate owner in even more serious difficulties and possibly in the hands of the merchant. Walter Robertson of Cults, burgess of Aberdeen, raised a summons against William, Earl of Errol for the 5,000 merks payable on his failure to deliver contracted victual.[39] In 1662, against a falling market, the Perth merchant Patrick Threipland, was able to negotiate a reduction in the price he had contracted for the purchase of ferme victual from Alexander Lindsay of Kilspindie:

> And in regard the said Patrick has advanced me ane considerable part of the money of my victual long before his day of payment. And in regard also he is ane great losser by my bargaine. Therefore I bind and obleis me to abate him ane considerable soume off his bond. At least ane merk of ilk boll and more efter consideration.[40]

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[37] NRA(S) 885, 112/7/39 (1636).
[38] A typical example is the contract between the Earl of Strathmore and George Menzies for the sale of 400 bolls of meal to be delivered to the shore of Dundee by 15 March, 1702. This carried a surcharge of 10s 0d per boll for untimely delivery and a penalty of £400 if either party broke the contract. NRA(S) 885, 150/3 (1702).
[39] NRA(S) 885, 112/5/31(1).
[40] PKAC, MS169/14/2/8.

This apparent generosity on the part of Lindsay was prompted by the extent to which he was already in debt to Threipland.[41] Threipland (later made Sir Patrick) also featured - along with a substantial number of Dundee merchant families - in the long list of creditors to whom Patrick, Earl of Strathmore was indebted.[42]

As grain production expanded and demand remained poor, the process of finding buyers at acceptable prices became increasingly difficult and more time consuming. An alternative for proprietors was to sell their ferme on a commission basis. An example of this is the arrangements made between Patrick, Earl of Strathmore and David Crichtone, a baxter in Perth. In December 1680 a bond was drawn up between the two, with Crichtone contracted to sell on Earl Patrick's behalf 1,000 bolls of oatmeal to be delivered to the shore and harbour of Montrose. As an added incentive to buyers, the transportation of the meal to any port in Scotland was included in the purchase price.[43] In the event, Crichtone did not offer the meal himself, but transferred the bond to one of the leading merchants in Montrose, Provost Robert Ranald, who organised its sale.[44] In February 1681, another bond was drawn up between Crichtone and the Earl, this time to sell between 1,000 and 1,200 bolls of bere delivered to the shore of Dundee and to such merchants as would buy it. Crichtone was to be paid a commission of one penny in the pound of any money received in excess of £4 3s 4d per boll.[45]

Selling on commission still incorporated risk for the proprietor and did not always have a successful outcome. James Tailzeour, skipper of *The Hope of Borrostouness* was contracted in 1686 to ship 50 bolls of bere from Dundee on behalf of the Earl of Strathmore. Tailzeour failed, however, to return with either the proceeds of the bere or the cargo of lime on which it should have been spent.[46]

But it was the business of merchants to trade and while in years of surplus and a buyers market they were in a position of strength, they also had to go out and find the right kind and quality of grain at the right price with which to supply their customers. In the estate papers of the Carse of Gowrie there is as much evidence

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[41] PKAC, MS169/14/3/4.
[42] NRA(S) 885, 163/7/6 (1671).
[43] NRA(S) 885, 30/6/13 (December, 1680).
[44] NRA(S) 885, 30/6/11 (February, 1981).
[45] NRA(S) 885, 30/6/12 (February, 1681).

to be found of merchants making approaches to purchase grain, as there are of proprietors and their factors chasing sales.[47] By no means all dealings comprised large contracts taking up the whole of an estate's ferme. Merchants also made up consignments and shiploads with smaller purchases drawn from a number of sources. David Crichtone had problems with a load of bere and meal bought from farms about Perth and sold to merchants in Leith.[48] (It is a feature of estate records that much of the correspondence that has survived, has done so because it was generated and retained in the first instance because there were problems and disputes. Where deals had run smoothly and procedures had been routine, no letters of explanation would be required and no details kept beyond a mention in the accounts at the factor's compting.)

The need to dispose of what in the majority of years was an abundance of grain, fuelled competition and the development of new markets. Selling grain on commission gave incentive to those with energy, but perhaps without a great deal of capital, to gain a stake in the economy while at the same time allowing the producer as good a deal on their crops as he or she was likely to find. This and the speculative ventures by estate owners selling their own produce abroad, were part of the rise in entrepreneurial activity and ambition that in the 1690s culminated in the Company of Scotland and the Darien adventure.

While Scotland faced serious economic problems, especially from the 1690s, a considerable expansion in trade was achieved during the second half of the seventeenth century and the economy placed firmly on the path of modernisation. The progress achieved in removing the restrictive practices of earlier times was symbolised by the parliamentary act of 1672 which went some way towards eliminating the trading monopolies enjoyed by the royal burghs and represented a shift in the control of Scotland's economy from town to country.[49]

In the Carse of Gowrie in the second half of the seventeenth century, merchants should not be seen as operating only from the base of their home burgh with rural

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[46] NRA(s) 885, 31/4/50(1), (1680).
[47] PKAC, MS100/20/1099, (1656); NRA(S) 885, 198/6/41 (1678), 30/1/3(1) (1681).
[48] NRA(S) 885, 30/1/3(1) (1681).
[49] M. Lynch, 'Continuity and Change in Urban Society, 1500-1700', in R. A. Houston and I. D. Whyte, (eds.), *Scottish Society, 1500-1800* (Cambridge, 1989), 86.

contacts confined to estate owners and their factors. The sons of substantial tenant farmers such as Patrick Hunter of Inchture were apprenticed to merchants, as were those of estate owners (Alexander, son of Sir George Kinnaird of Inchture).[50] As already noted in Chapter 3.3, above, tenant farmers were numbered among the families of several prominent Dundee merchants, and a significant number purchased estates in the district.

The trading of grain was central to the economy of the Carse of Gowrie and, as has been seen, merchants were in a position of importance and power, particularly in the years of low prices that dominated throughout the period of this study. Men like Patrick Threipland were able to all but name their terms when dealing with indebted estate owners. Robert Preston in 1656 had the standing and the confidence not only to berate George Kinnaird (the largest landowner in the Carse of Gowrie and, very probably, the strongest financially) about ordering boots from Edinburgh, but also for writing 'so peremptorily to Bailzie Murray' regarding an unpaid bond, stating that he would be happy to pay the sum himself.[51] Interaction between merchants and landlords was an important factor in promoting commercialisation and the process of modernisation in rural society and the economy.

The landlords of the Carse of Gowrie had cause to set about improving grain production on their estates in an effort to compensate for the poor rates of return to be gained from the sale of the crop. To sell their grain in an over-supplied and depressed market, they had to engage in a world of trade and commerce where the economic background had changed dramatically from the beginning of the seventeenth century - a time when the entrepreneurial activity of noble landlords has been described as being driven, not by economic desperation, but by a combination of opportunities and confidence.[52] This was in marked contrast to the second half of the seventeenth century when the financial and trading realities that prevailed provided a very important spur towards a more modern and business-orientated approach.

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[50] PKAC, MS97/9; MS100/1109.
[51] See above. PKAC, MS100/20/1099.
[52] Brown, K. M., *Noble Society in Scotland, Wealth, Family and Culture, from Reformation to Revolution* (Edinburgh, 2000), 69.

4.4 CROP YIELDS[1]

The importance of the level of crop yields achieved by Scotland's farmers in the early modern period cannot be over-emphasized. Cereals were the principal food for an overwhelming proportion of the population. In what was a relatively poor and under-developed country, oatmeal, at roughly one fifth of the cost per 1,000 calories of meat was the staple sustenance of all but the elite.[2] The yields achieved were in general terms low, surpluses were limited and any extended shortfall brought, as has been seen, the threat of dearth and famine.

The level of crop yields, where these are known, are also of great importance to historians, being one of the few means by which actual improvement in agricultural productivity can be identified and measured. Before the modern period, technical developments, changes to the structure of farms and in levels of production and supply of food can often be apparent, but hard evidence for a real improvement in agricultural productivity is rare. An increase in production can be brought about by an extension of the area under cultivation rather than an improvement in productivity.[3] Neither does evidence of an increase in exports necessarily reflect an increase in production or productivity, as this can be achieved at the expense of a reduction in supply to the home market. However, crop yields systematically recorded across a good number of years can reveal if, and to what extent, real improvements in productivity were being achieved.

This section will incorporate a case study of one farm (the Mains of Castle Lyon) in the Carse of Gowrie in the later decades of the seventeenth century and assess the

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[1] I wish to thank Professor Jim Tomlinson with whom I have discussed the statistical methods used in this chapter; he agrees they are fit for the purpose for which they are deployed, and no inappropriate claims about the statistics on crop yields are being made.
[2] A. Gibson and T. C. Smout, 'Scottish food and Scottish history', in R. A. Houston and I. D. Whyte, (eds.), *Scottish Society, 1500-1800* (Cambridge, 1989), 82.
[3] See Chapter 4.3, above, with regard to the extent to which additional land was being brought under cultivation within the Carse of Gowrie in the second half of the seventeenth century.

level of yields there, the manner in which they were achieved and how they compared with other reported yields, both in Scotland and further afield. It will also examine the correlation that existed between yield and the level of fiars prices struck at Perth.

Firm and useable data on crop yields from the early modern period is, unfortunately, extremely rare. Inventories and testaments give estimates of likely crop returns and a number of contemporary writers describe grain production and discuss yields achieved but, for comparative purposes, accurate and systematic recordings over a substantial number of consecutive years are needed.[4] Isolated instances of yields may be unrepresentative and reflect only a particularly good or bad year and even farms of a similar size and within a few miles of each other can produce very different returns in the same year.[5]

In the centuries before state-sponsored surveys and the imposition of income tax, the accurate and systematic recording (or lack of it) of farm inputs and outputs was a matter for the individual producer. Paper was an expensive commodity and a large proportion of the population did not write. The majority of farmers would hold such information only in a manner sufficient for their personal needs. It is to be expected that, for the most part, only where the farming operation was carried on through a factor - such as on mains farms and land farmed in hand - would the maintenance of detailed written and audited records be required. But, even though muniments from a substantial number of estates dating from the seventeenth century are extant, the survival within them of crop statistics recorded systematically, appears to be very limited. A great deal of such information may just not have been deemed important enough to keep and, of course, many accidents and losses occur across the years. Even on well-regulated estates the successful keeping of systematic farm records over a lengthy period is likely to have been at the mercy of numerous eventualities such as the death of the laird or a change in the factor.

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[4] A pioneer in the use of inventories to assess yields in England is R. C. Allen, 'Inferring yields from probate inventories', *Journal of Economic History,* 48 (1988), 117-25. For a contemporary discussion of Scottish yields, see for example J. Donaldson, *Husbandry Anatomised or an Enquiry into the Present Manner of Teiling and Munureing the Ground in Scotland* (Edinburgh, 1699).

As has already been said, isolated instances of crop yields can tell us very little, or even mislead with regard to the larger picture; similarly the level of returns from just one farm, even over an extended period, will not necessarily be representative. To be put in their proper context and form part of a meaningful picture of grain production in Lowland Scotland in the early modern period, as much as possible needs to be known about the circumstances in which the yields were produced. It is important therefore, that where a run of crop returns does exist, the nature and level of husbandry as well as the underlying quality of the land also be examined and taken into consideration. Such yield levels can then provide a standard against which other runs of returns can be compared and against which isolated yields can be measured.

The Papers of the Earl of Strathmore contain data from which a substantial run of yields for the Mains of Castle Lyon in Longforgan parish can be calculated. From information contained in the Strathmore muniments and also comments by Patrick, Earl of Strathmore in the *Glamis Book of Record*[6], a good deal is known about the Castle Lyon estate during the latter half of the seventeenth century. This allows some insight into the circumstances of the farm and the methods of production employed, as well as the manner in which the estate was being developed and improved at that time. This, in turn, enables the level of crop returns there to be seen in a wider context as well as the degree of actual improvement to be gauged. At a fundamental level agricultural development and farming practice were (and still are) closely related to the nature of the soil, elevation and drainage. These factors, in relation to the Carse of Gowrie in general as well as the Castle Lyon estate in particular, have been discussed in Chapter 2.7 of this thesis. Such information can provide a basis for comparison with yields attained in other areas.

In 1672 the Mains of Castle Lyon was described as extending to 'two strong plows[7] with the Meadows, Charles Woods and the Old Greens which is now inclosed with the grass of the orchyeards'. The valued rent of the arable ground was 20 bolls each of wheat, bere, oats, meal and pease (100 bolls in all), plus £400 for the grass

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[5] See, for example, the instances reported in Chapter 2.7: 'The Seven Ill Years'.
[6] Millar, *Glamis Book of Record*, passim.
[7] Two strong ploughgates: approximately 208 Scots acres.

wards, woods and policies.[8] When originally assessed in the 1640s, this would have been judged the real rent of the land.[9] The rule of thumb rate for the assessment of rent in the pre-Improvement era was one third of production.[10] The expected yield of victual from the arable ground at that time would, therefore, have been in the region of 300 bolls. Patrick, First Earl of Strathmore, did however complain that at the original assessment for valued rent, the estate had been valued above the real rent warranted by the quality of the land and in contrast to that belonging to other proprietors in the area, which had been undervalued.[11] (It should be noted that this complaint was made in the context of what Earl Patrick considered to be the excessive amount of cess he was required to pay.) One hundred bolls was, in any event, more than the actual rent of 92 bolls of victual that was being paid in the 1670s by three Castle Lyon tenants who each farmed holdings of two ploughgates adjacent to the Mains, although the proportion of ferme being paid in wheat by these tenants was higher, at 26%, than the assessed valuation for the Mains of 20% in wheat.[12]

The information from which the yields for the Mains of Castle Lyon have been derived is contained in the factory accounts for the estate.[13] The volumes of 'Charges and Discharges' that pertain to the crop years 1672 to 1695 include the amounts of the three principal grains, plus pease, sown on the Mains of Castle Lyon and the amounts that were harvested. During this period at least four different factors had the day-to-day management of the estate but Patrick, the first Earl of Strathmore, resided at Castle Lyon for long periods and took a very close personal interest in its affairs and development. The account books follow, on the whole, a standard pattern and the nature of the contents is fairly consistent. From 1696 unfortunately, the year of Earl Patrick's death, no factory accounts containing similar information on the crop yields attained at Castle Lyon have, to date, been located relating to the period of this study.

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[8] NRA(S) 885, 64/1/2.
[9] See discussion on the assessment for valued rent in Chapter 2.5.
[10] Whyte, *Agriculture and Society*, 77.
[11] Millar, *Glamis Book of Record*), 17.
[12] NRA(S) 885, 64/1/1 (1671 Compt Book).
[13] NRA(S) 885, 51/1 (Crop years 1674 & 1675); 54/1/10 (Crop year 1679) 64/1 (Crop years 1680-1695); 190/1 (Crop years 1676-1678); 190/2 (Crop years 1672 & 1673).

The volumes that are extant contain the summaries of the receipts (the 'Charges') for the estate as a whole and for the most part are taken up with the amounts of ferme and money received from the tenants as well as the crop grown on the Mains. They also detail the manner of the disposal of the crops and ferme (the 'Discharges'), listing the quantities sold, what was consumed on the estate by the household and the livestock, maintenance and payments made to workers and, of course, the amounts sown as seed on the Mains. Several of the books include information pertaining to other estates in the ownership of the Earl. (A number of the volumes are in poor condition and the information contained is more easily accessed in some than others.)

The factory accounts pertain to the crop year for each harvest. A 'crop year' was not a calendar year but corresponded to an accounting period that began with each harvest. Its usage was standard in Scotland's grain-growing areas throughout the early modern period. Grain received as ferme and grown on in-hand land formed a very large proportion of the gross income on many estates and the crop year incorporated all subsequent transactions involving the product of that harvest. Grain harvested in the autumn of 1680, for example, was the basis for the crop year 1680 and all subsequent sales of, payments in, or use made of grain from that harvest, be it in 1680, through 1681 or even beyond, would be accounted for as 'crop 1680'. This included all debts falling due from that harvest such as stipends, wages and rents. Grain discharged as having been sown in the accounts of crop year 1680, was the seed corn for the following crop, i.e. the harvest of crop year 1681.

An important device in the working of this grain-based economy that also pertained to the crop rather than the calendar year and is relevant to this study was the striking of county fiars prices for the grains and pulses most commonly grown and traded. County fiars prices provided a base conversion rate for grain in the district and a basis for the settlement of various fixed payments such as feu duties and also for legal processes.[14] Sheriff courts normally struck fiars in February when the crop from the previous harvest had been in the market for some time and when levels of

[14] For a full discussion on the use, purpose and context of county fiars prices, see Gibson and Smout, *Prices, food and wages,* 66-129; and also, R. Mitchison, 'The movements of

supply and demand, as well as a good number of negotiated prices, were known. Although fiars prices for, say, the 1680 harvest were not struck until February 1681, they pertained to the crop of 1680 and were, therefore, called and known as the 1680 fiars prices. An extensive list of the fiars prices struck at Perth have survived and these, along with many from other districts, have been collected and published.[15]

The account books in which the details of grain production on the Mains of Castle Lyon are to be found are, for the most part, audited with declarations as to their veracity signed by the factor and the Earl of Strathmore. The yield figures include only the amount of usable grain obtained from each Mains harvest and take no account of any losses that might have occurred through storm, vermin damage or theft prior to the thrashing of the corn stacks. The grain harvested on the Mains was held and accounted for separately to that received as ferme from tenants, bought in, or held over from previous years. The Mains' crop, excepting that wheat set aside for seed corn (which was thrashed and used almost immediately), was stacked and stored unthrashed, until needed. At the thrashing of each stack the grain was measured and proofed by a corncaster.[16] Corn taken in as tiend sheaves was accounted for separately. Tiend was payable on the 'toun' land of Longforgan, but not across the estate as a whole or, as far as can be ascertained, on the Mains land and none has therefore been included in the yields from the Mains.

There are questions against figures in two of the factory accounts. The Earl contested the very low figure for bere grown on the Mains in 1676 and wrote that it was 'very presumable that there is wrong done which in due time may not only be found out but punished'.[17] However, yields in that year were generally low and, in the absence of any alternative figure being given, the yield as stated in the account book is the figure that has been included in this study. There is an omission and some element of uncertainty with regard to the accounts for 1679; at Martinmas in that year James Ferryer took over from John Lyon as factor for Castle Lyon. No account of the wheat sown on the Mains for the following year's crop was included.

Scottish corn prices in the seventeenth and eighteenth centuries', *Economic History Review,* 2nd series, Vol. 18 (1965), 278-91.

[15] Gibson and Smout, *Prices, food and wages*, 82-129.

[16] Corncasters were, usually, local, independent men, employed to measure and attest to the amount of grain contained in stacks.

The yields recorded in the 1679 accounts, with the exception of the bere crop, were extraordinarily low. A rise in the Perth fiars for that year also suggests that there was a general shortage (see discussion below). The wheat yield recorded from the Mains was particularly bad (1.02:1). It is possible that the entire crop was used for seed corn, or alternately that the little that was recovered was too poor to be used and seed wheat for the 1680 crop was bought in. However, no record of the source of the seed or the amount sown was recorded by either the outgoing or incoming factor. The records of the crop year 1679 differ in a number of ways from others in the series and do not contain the usual level of detail.[18] However, the accounts were signed by the Earl as having been 'perused', with no comment made against the figures for the Mains crop. For the purposes of this study an estimated figure of nineteen bolls (in line with the amount of wheat sown for the 1679 and 1681 crops) has been included as the amount sown for 1680. A full list of the figures for wheat, bere, oats and pease for those years where records are extant are set out in the appendix to this chapter. Figure 4.2, below, contains a summary of the total amounts sown together with the total yield, in terms of bolls and as a ratio.

While the yield figures are, in the first instance, an important record of the actual amounts being produced on the Mains during this period, they also embody two additional and distinct movements: the degree of improvement achieved across time; and the year-by-year fluctuations in yields. These three aspects of the information presented can tell us a great deal, not only about yields themselves and the effectiveness of improvements being carried out on Castle Lyon, but also about the supply of grain in general, at this time.

The degree to which yields fluctuated from year to year reveals much abut the circumstances of crop production and the background to the level of victual supplies reaching the market. For the most part, a fall one year was followed by a rise the next and losses and shortages could, to some extent, be made good. The largest single fluctuations were between 1682 and 1684 when a very poor year was followed by a bumper harvest in 1683 with a fall back towards the norm in 1684. The increase in yield 1682-3 was a massive 67% (207 bolls); the fall in 1683-4 was 27% (118 bolls). Across the period for which returns are extant, the year-by-year

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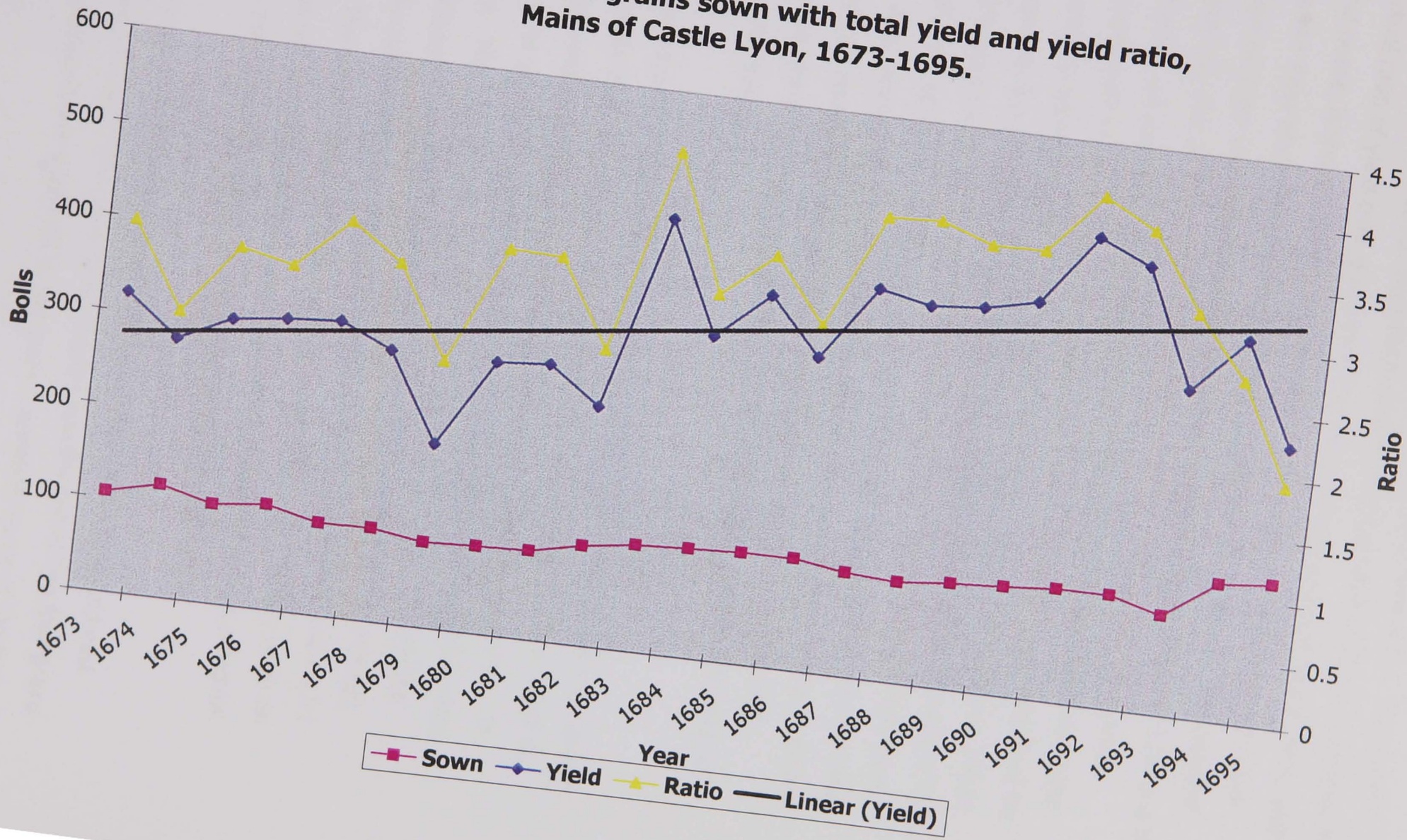
[17] NRA(S) 885, 190/1/9.
[18] NRA(S) 885, 54/1/10.

Figure 4.2 Total of all grains sown with total yield and yield ratio, Mains of Castle Lyon, 1673-1695.

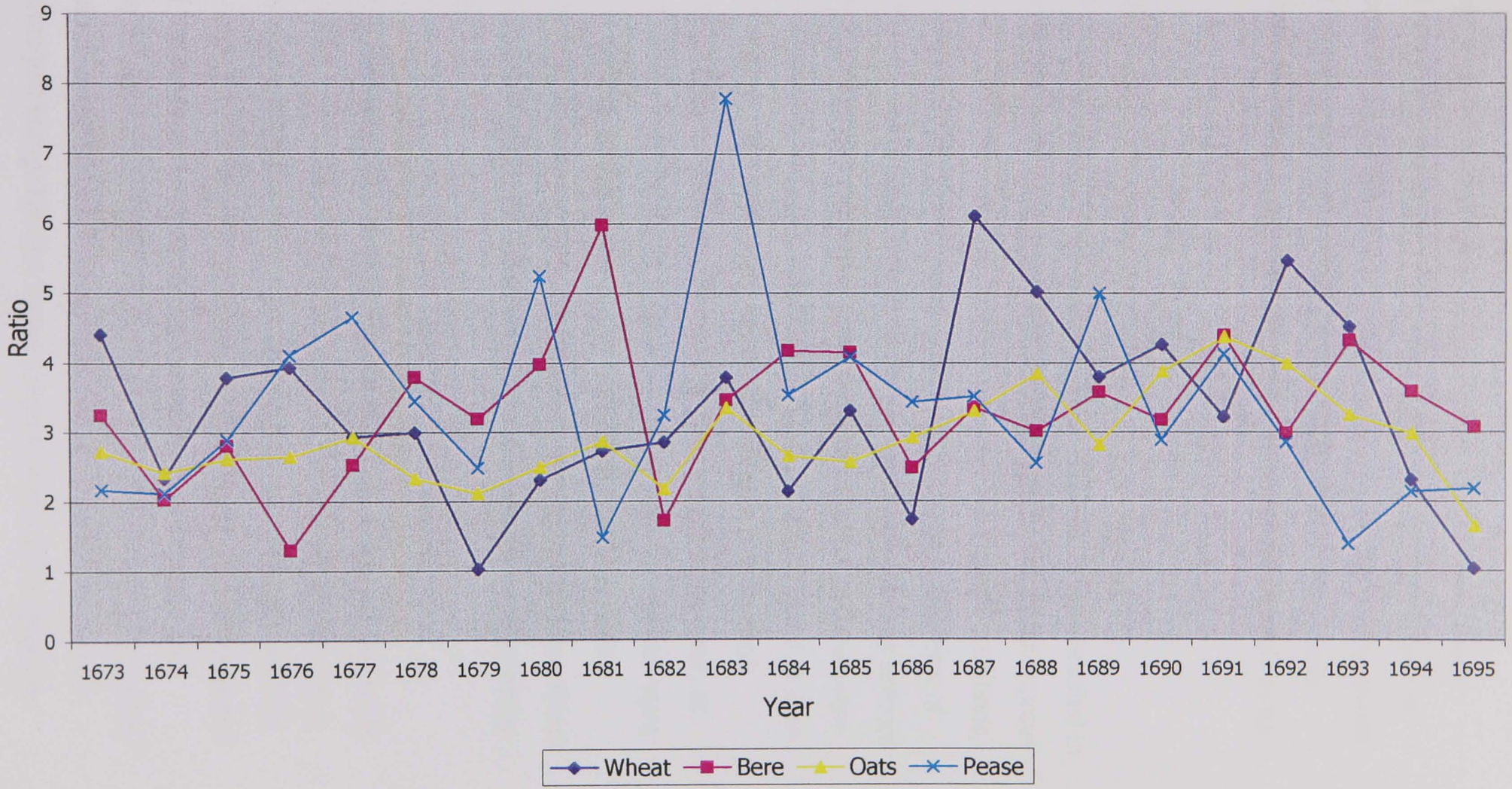


shifts in yield levels on the Mains of Castle Lyon averaged 17%. The sometimes dramatic extent to which yield fluctuated is demonstrated by Chart 4.3 where the actual ratio of yield over grain sown for the individual crops of wheat, bere, oats and pease, is shown. It can be seen that the individual fluctuations are much greater than when the average of their total production is taken. The greatest single increase was a massive improvement in wheat yield in 1687 of 251% and the largest fall, that of 71% in the yield of bere in 1682. Wheat and bere yields fluctuated, on average, by more than a third (36%); pease was the most erratic performer with yields swinging an average of 42%. Oats, the most modest of the four crops in terms of yield levels, was also the most even in performance, but its average year-by-year fluctuation of 20% was still above the overall average of 16%. A contributory factor to the more even performance of the oats would have been their inherent ability to perform in poor conditions more successfully than the other crops. Also, more than twice the amount of oats was grown than of wheat, bere or pease and on more diverse soils. More than half was sown on outfield land, whereas the wheat, bere and pease were grown, in general, only on the infield of the Mains at Castle Lyon.

In the large majority of years each crop reacted to the prevailing conditions more or less successfully than the others. Where one crop faired poorly, another might do relatively well and to some degree ameliorate the overall level of production. In years of general shortage, some benefit could be taken from the high prices that would prevail. This was the case in 1676 when the yield from the bere on the Mains of Castle Lyon was a disastrous 1.3:1, the oat crop was a rather average 2.65:1, but the return from the wheat and pease a very sound 3.94:1 and 4.11:1 respectively. The overall yield ratio for the four crops was 2.77:1 which, while far from good, was not the catastrophe it might well have proved in a more marginal area where the only crops capable of being grown were bere and oats.

In 1693, Earl Patrick wrote that the newly created infields of the west and east wards of the Mains of Castle Lyon were to be divided equally and all the four grains sown: 'rather than hazard one graine all in one year ... probably some of the four

Figure 4.3 Ratio of yield over seed sown of the individual crops, Mains of Castle Lyon, 1673-1695.



will hold better'.[19] The ability to grow successfully a range of crops was an important advantage enjoyed by the Carse of Gowrie and one denied to many wetter, colder and more exposed areas of Lowland Scotland where the failure of one crop could represent the failure of the entire harvest. In the pre-Improvement period, when yield levels were in general low, it also highlights how easily and frequently the delicate line that lay between subsistence and want was liable to be breached.

The supply of victual to the market was therefore very uneven; a situation exacerbated by the poverty of on-farm storage facilities. Abundant crops resulted in surplus and low prices, but their retention in any quantity until prices might improve was for most farmers unfeasible. Grain is bulky and, if not kept in good conditions, will quickly deteriorate and waste through mould and rot. Storage in the form of stacks of unthrashed corn was, particularly in the longer term, an imperfect defence against loss to climate and vermin. Secure barns in which to house the grain were expensive to build and though dry grain will store well, the prevailing damp of even Scotland's east coast made this a difficult condition to maintain. For practical purposes, the majority of grain had to be disposed of before the next harvest, as well as to bring in income. Even at Castle Lyon where barns and farm offices were among the extensive building works begun by his father and carried on with industry by Earl Patrick, it was rare for any substantial amount of crop to be carried long beyond the following harvest; the thrashing of the new corns normally having begun by December.[20]

The limited amount of reserves held on farms meant that even an apparently small dip in yields would result in prices being driven upward. The Mains of Castle Lyon was, of course, only one holding but if the fluctuations experienced there were felt across a wide area, then the consequences for the supply of grain had the potential to be immense. Of the many factors that can affect grain yields, climate and weather have by far the most immediate impact, be it a wet time when grain sown in water-logged ground rots rather than grows, a hot dry time when the plants wither, or when storms just before harvest flatten crops and knock the ripening grain from the heads.

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[19] NRA(S) 885, 190/1/25.
[20] NRA(S) 885, 50/3, (1698) and, 64/1 (Crop years 1680-95).

The very close relationship between yield levels and wholesale prices can be seen when the average yield of the four crops grown on the Mains of Castle Lyon is compared with the average of the fiars prices struck at Perth for the same grains. (This is represented in Chart 4.4, below.) Although in some years there were circumstances particular to the Mains of Castle Lyon, which were likely to have lessened (or increased) returns there relative to other farms in the locality, Figure 4.4 reveals a remarkable symmetry between the levels of yield achieved and the levels of the fiars.[21] An inference to be drawn is that fluctuations in yields at Longforgan were to a large extent the consequence of the prevailing weather conditions.

It can be seen that the very high fiars prices associated with times of dearth and famine reflected substantial falls in production. In 1674, a time of serious want across much of Scotland, particularly in upland areas and including Perthshire, the overall yield on the Mains dropped to a low of 2.3:1 (one of the poorest returns recorded prior to 1695) while the average of the Perth fiars for the same crops rose to £8 5s 10d per boll.[22] Although there was some recovery in Castle Lyon yields in 1675, returns remained below 3:1 and the Perth fiars rose further to £9 in that year.

In the 1670s and 1680s it would seem that years of poor yields were relatively isolated and dearths, if severe, were short lived. This, however, was not the case in the 1690s. The first year of harvest failure and the onset of the famine across most of Scotland has generally been considered to be 1695, but with signs of problems in Orkney and Shetland as early as the crop of 1693.[23] The Castle Lyon figures, however, reveal that in the relatively sheltered Carse of Gowrie, a slight downturn in the 1692 crop was followed by a substantial fall in yields in 1693. This must have been quite widespread as it was reflected by a sharp rise in the Perth fiars. The situation was compounded by a very poor harvest by Castle Lyon standards in 1694, when a yield ratio of only 2.75:1 was achieved. In 1695 the wheat and oat harvests in particular were a disaster and the yield across the four principal crops grown on the Mains averaged only 1.9:1. This was 50% below that obtained in 1692. These

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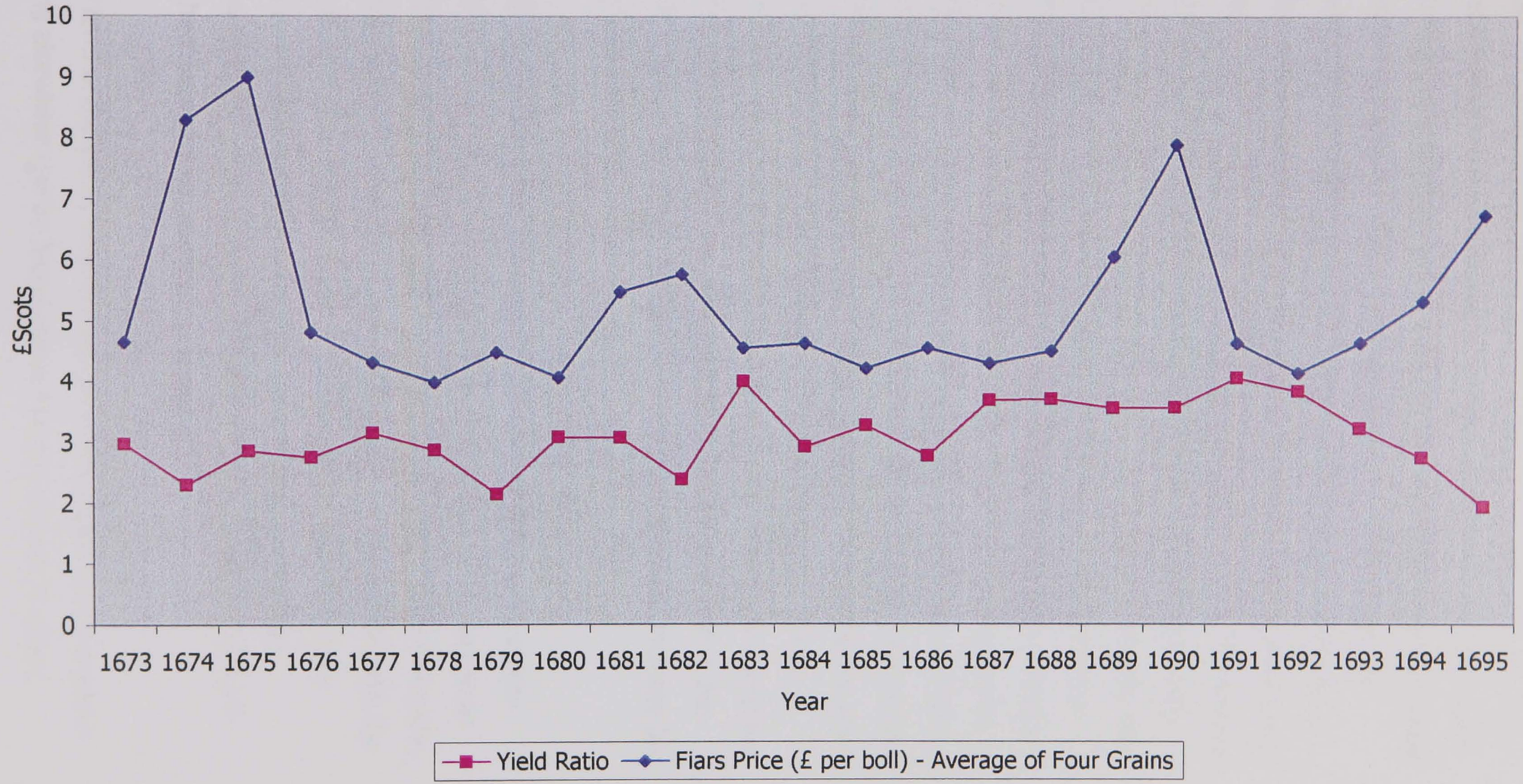
[21] See discussion on the improvement of yields on the Mains of Castle Lyon, below.
[22] Gibson and Smout, *Prices, food and wages,* 169.
[23] *Ibid.*, 170.

Figure 4.4 Comparison of the fiars prices struck at Perth (average per boll of wheat, bere, oats and pease) and the average yield ratio for the same for crops on the Mains of Castle Lyon.



figures indicate that although severe failure may not have been evident until 1695, the roots of the famine had been established in the poor returns of 1693 and 1694, with reserves of corn already brought to a critical level by successive years of falling yields. As emphasized elsewhere in this thesis, 'the seven ill years' of popular terminology was undoubtedly much nearer the mark in its description of the time than has sometimes been supposed.[24] In spite of the year-by-year fluctuations and the catastrophic downturn caused by the weather patterns of the 1690s, the returns for the Mains of Castle Lyon reveal a clear improvement in the overall crop yields achieved there in the twenty-three years following 1672. In Figure 4.2 (above) the trend line indicates the general increase in production of the four principal crops grown on the Mains of Castle Lyon across the period; it shows a rise from a total of less than 300 bolls per annum to considerably over 400. That this increase is not just in the total produced but also in terms of yield achieved, is confirmed in Figure 4.5, below, where the trend line indicates a general increase in the yield ratio across the period from 2.8:1 to 3.4:1 (approximately 20%). Included in these figures are two years of very poor harvests at the beginning of the famine years. If it is considered that the extreme weather conditions of that period were atypical and the returns for 1694 and 1695 are discounted (Figure 4.6), it can be seen that in the preceding twenty-one years, from 1673 to 1693, a much more dramatic increase (in the region of 45%) was recorded.

The yields achieved on the Mains of Castle Lyon from 1673 to 1682 were on the whole quite poor, only exceeding 3:1 on three occasions and then by a very small margin. High fiars prices suggest that yields in 1674 and 1675 were low universally, but there is little to indicate that conditions were particularly unfavourable (with the exception perhaps of 1679) in the other years.[25] From 1683 to 1687 there is a visible if somewhat erratic improvement and from 1688 to 1692 yields were consistently high, even in the years of 1689 and 1690 when the level of the Perth fiars indicate that there was general shortage in the area.[26]

A discussion of the level of the yields obtained and how they might have compared with those prevailing elsewhere can be found below, but the manner in which

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[24] See Chapter 2.7: 'The Seven Ill years'.
[25] See Chart 4.3; also, Gibson and Smout, *Prices, food and wages,* 169.
[26] *Ibid.*

Figure 4.5: Average yield ratio of wheat, bere, oats and pease, Mains of Castle Lyon, 1673-1695.

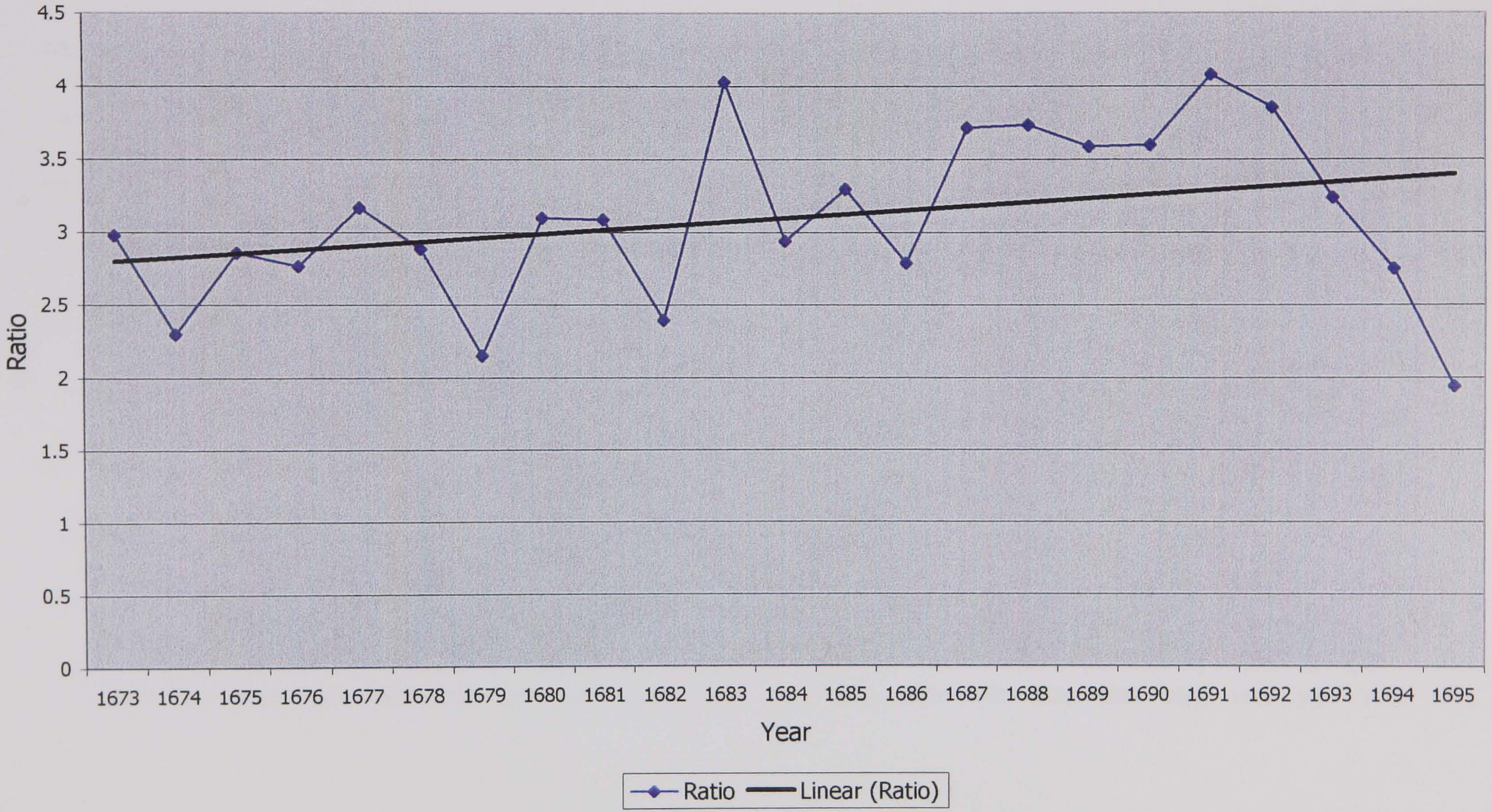
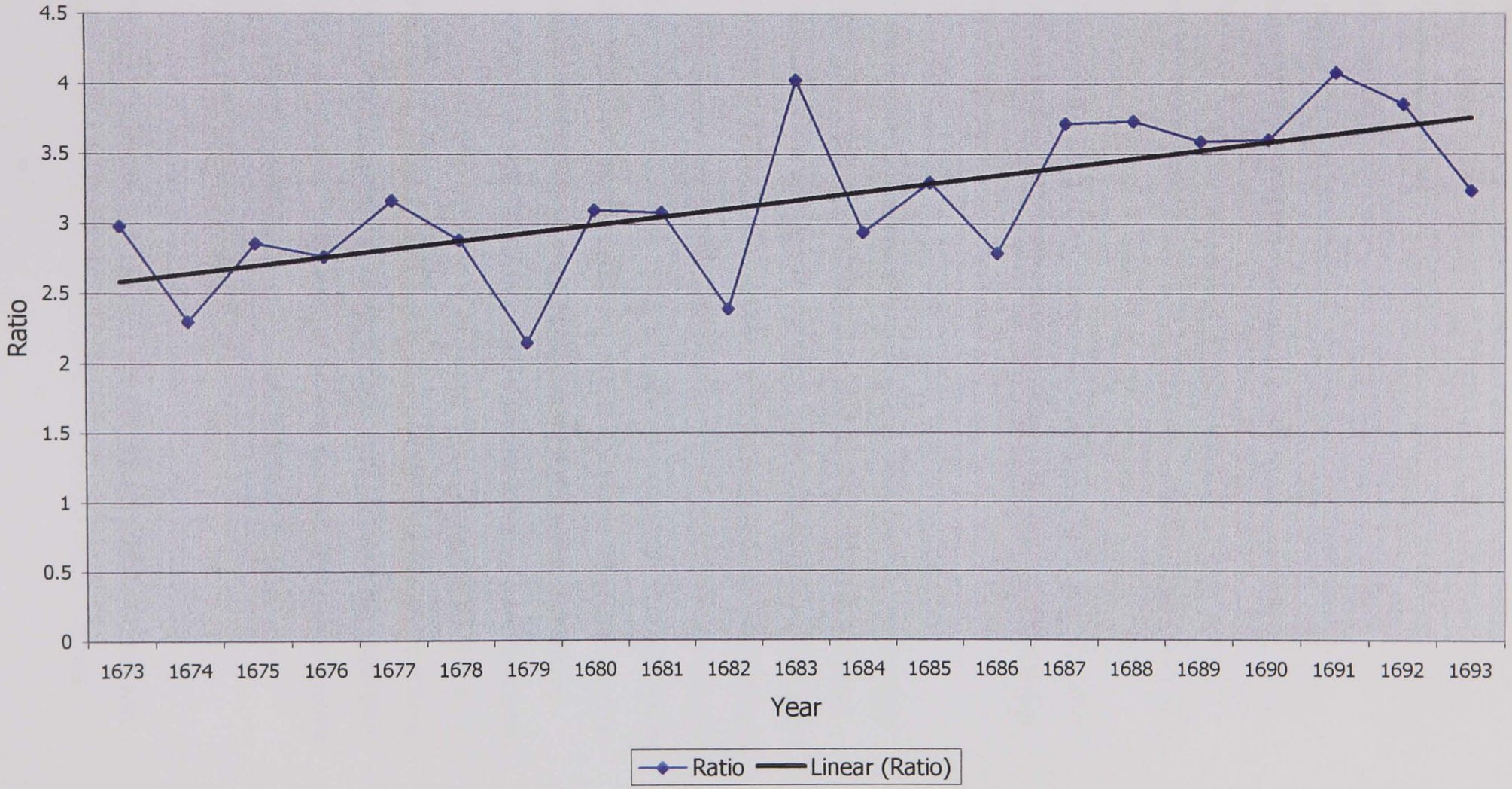


Figure 4.6: Average yield ratio of wheat, bere, oats and pease, Mains of Castle Lyon, 1673-1693.



improvement was achieved on the Mains of Castle Lyon will be considered first. Crop production on the estate of Castle Lyon was based on the traditional infield-outfield system of cultivation to be found across much of Lowland Scotland. Briefly, infield land tended to be adjacent to the farmsteads and of better quality; it received as much manure as was available and was kept in perpetual cultivation. The outfield was farmed less intensively, with the land grazed, cropped and rested in rotation. Livestock were herded and kept in temporary folds on the areas of outfield next to be cultivated; they fed on the grasses and herbage that grew there naturally and their manure fertilised the ground. The area was then cropped, usually with oats, for a period of three or sometimes more years, after which time the ground was rested. Following this break, livestock would again be folded and the cycle of cultivation repeated.[27]

The success of the system was dependent on the mutual relationship that existed between livestock and crops and the maintenance of a balance between the two. Livestock were sustained by the produce of the land, while the fertility of the land and hence its productivity was dependent on the manure produced by the livestock. The serious weakness in the infield-outfield system became apparent when the area of land under cultivation was extended. This, in most cases, involved the ploughing up of land previously used for grazing livestock, which in turn curtailed the number of animals that could be kept. The amount of available manure was, therefore, reduced at a time when more was required to maintain the fertility of an increased area of cultivation. If soil fertility was not to suffer progressive depletion and a consequent decrease in production, additional sources of manure had to be found, or improved systems of land management introduced. It has been suggested that the need to maintain and enhance the manuring of land in areas where the system was in crisis, was an important stimulus towards agricultural improvement in Lowland Scotland in the eighteenth century.[28]

However, within the constraints outlined above, the system of infield-outfield was neither entirely inflexible nor incapable of producing reasonable crops. James

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[27] A full and detailed description of the infield-outfield system of cultivation and its history can be found in Dodgshon, *Land and Society*, 229-241.
[28] J. Shaw, 'Manuring and Fertilising the Lowlands 1650-1850', in S. Foster and T C Smout, (eds.), *The History of Soils and Field Systems* (Aberdeen, 1994), 111-118.

Donaldson, writing in 1794, described the method of cultivation operating across much of the Carse of Gowrie in the first half of the eighteenth century, as follows:

> ... the outfield was cultivated as long as it produced three or four bolls the acre, and afterwards allowed to lie some years in natural pasture, when it was again subjected to the plough. The infield, which consisted of that part of the farm nearest to the farm-houses, and to which the whole dung was regularly applied, was generally cropped in four divisions, one fourth being under wheat, one fourth under barley, one fourth, under oats, and the other fourth under pease and beans; and in general produced very tolerable crops.[29]

Donaldson's description might also have been applied quite comfortably in the second half of the seventeenth century to those Carse of Gowrie holdings where wheat was grown - particularly in terms of the rotation. In the better areas two-thirds of the land was maintained as infield and a third as outfield. The outfield was generally left for six years in its natural state and cropped for three years.[30] No direct evidence has been found to date of any introduction of a fallow break into the infield rotation during this period, the nitrogen fixing qualities of the legume (pease, sometimes beans, or a mixture of the two) serving instead.

On Castle Lyon, the cultivated land was worked broadly within the system described above, but important changes and improvements were introduced by Patrick, first Earl of Strathmore. The most significant change was the enclosure of a large part of the original Mains farm and its transformation into parkland. To replace the area of cultivated land given over to pasture, a substantial amount of outfield was brought up to infield standard. Some of this had previously been Mains outfield; some had been outfield let out to tenants. A large area of ground was also enclosed for commercial woodland during the same period, this was planted and a tree nursery established. The work was begun in 1660 and carried on until the 1690s, as and when income and the level of debt allowed.[31] An impression of the scale of the enclosures and planting can be gained from John Adair's map of 1683,

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[29] Donaldson, *General View of the Agriculture of the Carse of Gowrie,* 11.
[30] *OSA,* Vol. XI, 167.
[31] Earl Patrick inherited a large amount of debt; he reveals a good deal about the nature of this and the manner in which he dealt with it in, Miller, *Glamis Book of Record*, passim.

where the work carried out on Castle Lyon and by Lord Kinnaird on the neighbouring estates of Drimmie and Inchture, is depicted (Figure 2.6). By the time of Earl Patrick's death in 1696, the estate had been transformed from the ruinous condition in which he had found it when he came into his inheritance.[32]

The consistently low yields obtained before 1683 suggests that on the Mains of Castle Lyon at that time, soil fertility levels were, on both the infield and the outfield, poor. This is not surprising when the circumstances of the estate in the decades preceding the arrival of Earl Patrick in 1660 are taken into account. His father John, the second Earl of Kinghorn had died, heavily in debt, in 1646 when Patrick was only four years of age.[33] His mother was appointed legal tutor to the young Earl; she re-married and Patrick was, in later years, to condemn her second husband, the Earl of Linlithgow, for the manner in which he exploited his position and stripped the Lyon estates of both money and assets.[34]

English troops were at Castle Lyon during the siege and fall of Dundee in 1651 and had a presence in the locality throughout the period of the Interregnum. This is likely to have placed heavy demands on the resources of the estate and, at the very least, added a great deal to its disorder. The estate, for a long period, had necessarily been under the management of a factor who was without the authority commanded by a proprietor. The land, including the Mains, was in the hands of tenants whom Earl Patrick was to describe as '... a race of evill doers desolate fellows and mislabourers of the ground'.[35]

After this lengthy period of poor management, lack of investment and general depredation, the cultivated ground, in spite of its innate quality, was exhausted to the extent that tenants were unable to meet their rent and a number had run up substantial 'rests'.[36] Once lost and at a time when methods of improvement were very limited, soil fertility across an extensive area such as the two ploughgates of the Mains, would take a great deal of effort and many years to reinstate. The experience of Castle Lyon was likely to have been repeated - to a greater or lesser

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[32] Millar, *Glamis Book of Record*, 10,16,29,34; also NRA(S) 885, 190/1/22 (1688).
[33] Miller, *Glamis Book of Record,* 15-16.
[34] *Ibid.*, 16.
[35] *Ibid.,* 10.

degree - on many estates caught up in the turmoil of a lengthy and bitter conflict. The damage suffered illustrates the potential long-term and far-reaching effects on agricultural production of war and disruption.

An important aspect of the rundown state of the Mains, compounded by the removal of the tenants who had farmed it, was the lack of any livestock left on the holding. The Earl complained that in the beginning he did not possess even one horse: '... for att that time I was not worth a four-footed beast'.[37] He subsequently purchased three horses for a total of less than £20 (sterling) at Longforgan's Midsummer markets, used them first to transport to Castle Lyon those items left behind by the English at Glamis, before riding to London in order that he might 'kiss the new Kings' ring'.[38] This was a journey that would give the young earl ample opportunity to view the more advanced approaches to farming being followed in England at that time and the far pleasanter aspects presented by many English country houses compared to the stark discomfort he found in his own outdated tower at Castle Lyon and his severely damaged castle at Glamis.[39]

In the absence of readily available and alternative sources of manure such as seaweed, the keeping of livestock was the principal means by which the damage to the fertility of the soil could be reversed. But the livestock also had to be maintained. The major limitation on the number of animals that could be kept on pre-Improvement holdings (before the transformation brought about by the large scale growing of root crops, such as turnips, from the middle of the eighteenth century) was the amount and nature of the forage that could be conserved in order to feed livestock over the winter months. Too many animals on too little grass during the summer months meant that there was little surplus to be made into hay. Grain itself had a high premium and for the most part was fed only in measured rations to those horses which were being worked, at harrowing, pulling dung or stone carts, hunting and the like. The normal allowance for the working horses was

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[36] Thomas Davie, the largest tenant on Castle Lyon had a debt of 1,000 merks in 1660. NRA(S) 885, 190/1/20, (1688).
[37] Miller, *Glamis Book of Record,* 29.
[38] *Ibid.*, 31.
[39] *Ibid.*, 33.

one lippie of oats per day during the winter months. Some grain was also fed to cows before calving; poultry were given brock, mouldy and wasted grains.[40]

On arable holdings, conserved forage for cattle did not present the same problems as that for sheep and horses. The stomachs of large ruminants such as cows and oxen have the ability and the capacity to break down quantities of rough fibrous material and allow the extraction of any nutrition it contains. Adult cattle can be maintained quite comfortably on a diet of good straw and a minimum amount of protein, although cows in-milk and young stock require a higher level of nutrition. Sheep are also ruminants but do not have the same capacity and, though they consume much less in quantity than cattle, require forage of rather better quality. The digestive system of horses is entirely different and food is needed that contains a high level of accessible nutrition. In simple terms, cattle could survive through the winter on a diet of good straw - with which large arable holdings were well supplied – supplemented by what other vegetable matter might be readily available such as thistles and mineral-rich nettles.[41] On the other hand, sheep and especially horses needed substantial quantities of hay.

Subject to such diseases as liver fluke and footrot it might not have been thought that sheep would have been popular animals to keep on either the low-lying carse land or, with their ability to escape, in the environs of the arable areas.[42] They were, however, in addition to their fleeces and meat, much prized for the quality of their dung, which was considered to be the most superior of any produced by farm livestock, being better even than fowl and horse manure, both of which were considered to be more efficacious than that of cattle.[43] To facilitate the accumulation of their dung, sheep were housed at night and also during winter in poor weather. At the Mains of Castle Lyon in 1685 stone tabling from the Muirtoun quarries was used to floor the sheep-cotes there.[44]

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[40] Lippie: one sixty-fourth of a boll. It is a measure of volume, but in terms of weight is likely to have equalled less than a kilo For grain rations fed to livestock over the winter, see for example, NRA(S) 885, 190/1/23 (Crop 1690) and 54/1/10 (1679).
[41] Whyte, *Agriculture and Society,* 82.
[42] Liver fluke (a parasite) and footrot (a disease) both of which are prevalent in sheep and promoted by damp pasture.
[43] See Whyte, *Agriculture and Society,* 69. also Shaw, Manuring and Fertilising the Lowlands, 111-2.

Evidence suggests that sheep keeping, if not as prevalent as in less arable districts, was not uncommon in the wheat growing areas of the Carse of Gowrie in the second half of the seventeenth century. Nor was their keeping restricted to substantial proprietors who could run them safely in their enclosed parks and policies. Valuations of sheep are to be found among the testaments of persons from the middle and lower ranks of the economic and social scale.[45] In 1691, Alex Henderson, a tenant of one ploughgate in Longforgan, was recorded as having sold ten wethers to Earl Patrick for the sum of £24, suggesting that he, for one, ran a quite substantial flock.[46] I. D. Whyte writes that the native Scottish sheep of the time were neither large nor particularly hardy.[47] By the end of the century there is record of imported English sheep being kept in the Carse of Gowrie, notably on the Earl of Northesk's estate at Errol and of some of these being sent from Errol to Ethie in 1701.[48] In 1702 a young ram and four lambs of improved stock were purchased from Darlington in the north of England by the order of the Countess of Strathmore and brought back to Castle Lyon.[49] A small purebred flock of these were kept, no doubt for the breeding of rams with which to improve the native stock.

English travellers in the seventeenth century did not speak well of the amount or success of Scottish haymaking and contemporary Scottish commentators did not deny that there were shortcomings.[50] Even with all the technical advantages available to the twenty-first century farmer, Scotland's climate can still make the winning of quality hay an uncertain business. But the main problem that seventeenth century farmers in the eastern Lowlands contended with was the want of decent enclosures where meadowland and grass for hay could be conserved and protected from wandering livestock and the local populace.[51] Castle Lyon in 1660 suffered in this way. Earl Patrick describes the ground to the south of the castle (later enclosed) to be for the most part, a quagmire and 'the middows an open and

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[44] NRA(S) 885, 190/1/18, (1685).
[45] NAS, St Andrews Commissariat, Record of Testaments, CC/20/4/12, (for instance: James Rodger in Errol, 12 September 1662 and Janet Blair, spouse to Thomas Miller in Flawcraig Miln, February 1672).
[46] Wether (wedder): a castrated male sheep. NRA 885(S), 190/1/23, (1691).
[47] Whyte, *Agriculture and Society*, 80.
[48] DCRAC, GD 130/11, (1692 and 1701).
[49] NRA(S) 885, 129/9, (14 September 1702).
[50] See for instance T. Morer, 'A Short Account of Scotland, 1689', in P. H. Brown, (ed.), *Early Travellers in Scotland* (Edinburgh, 1891), 275. Also Whyte, *Agriculture and Society,* 82.
[51] In search of grass to cut and take to their own livestock, divots and turfs for their houses or their fires, or simply walking through and thereby flattening the grass.

common pasture so that before my time it was not known what the mawing of grass or use of hay was att that place'.[52] His first improvement was to enclose policies and make grass wards about the castle, and so ensure good pasture for livestock and hay for their winter maintenance. By 1672 he was boasting that there were four hay meadows that amounted to fifty 'good dargs' besides the wards and new paddocks.[53] In 1687 he was able to write that the Mains

> ... is marvellously accommodated with parks and inclosures in which I am stanking deer and serves not only for pasture to a great many horses, cattle and sheep but abounds with hay besides the bounds enclosed for orchards in which there is a great deal of shearing grass for stone c't [cart] horses and for cowes ... .[54]

It was the dung from the large quantities of livestock kept by Earl Patrick that enabled the damage done to the soil fertility to be repaired, the large amount of outfield to be brought up to infield standard and the productivity of the whole to be improved. It would seem that this was achieved without the use of lime. It is doubtful if any lime was used on the Mains of Castle Lyon during the seventeenth century even though there is ample evidence that lime was applied to the land in other areas of Scotland from a much earlier date and that its use was particularly beneficial for clay-rich soils such as those of the Carse of Gowrie, where the high natural level of acidity reduced the effectiveness of traditional manures.[55] No mention, however, of it being applied on the Mains at this time has so far been found. This may be simply that it was not an occurrence considered worthy of remark, but the available evidence does not point to its use. There is no inclusion of a liming clause in the few leases that survive for Castle Lyon, even from the early part of the eighteenth century.[56]

The first mention so far found of the application of lime as a fertiliser in the Carse of Gowrie is in tacks dating from 1718, set by Mr. George Hay on his estate of Leyes,

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[52] Miller, *Glamis Book of Record,* 35.
[53] Darg: the amount of meadow that could be mowed by a man in a day. NRA(S) 885, 190/1/2, (1672).
[54] NRA(S) 885, 190/1/20, (1687). Stanking: [here] feeding well. 'Shearing grass ... for cowes': during the summer months grass was cut and carried to those horses pulling the stone carts and to the milking cows. This practice limited damage to the grass by trampling and its waste by fouling, and was regarded as being more energy efficient.
[55] Whyte, *Agriculture and Society,* 198-208.

in Errol parish.[57] Although it is very possible that the practice was introduced there or in some other part of the district some years before that date and the effects gauged, prior to it being made a condition of lease. James Donaldson, in the *General View of the Agriculture of the Carse of Gowrie,* credits Mr. Hay as the pioneer of its use in the district followed closely by Mr. Henry Crawford at Monorgan, an estate neighbouring Castle Lyon.[58]

The yields achieved on the Mains of Castle Lyon do not indicate that lime was used and certainly not in a systematic way. As will be discussed below, wheat yields on the Mains by the late 1680s were comparatively high but, as a whole, production did not seem to be exceptional. Pease are sensitive to acid soils and react well to applications of lime and while there were substantial rises in their yield in 1680, 1683 and 1689, they are also known to have been uncertain and erratic producers.[59] Overall there was no improvement in the performance of pease across the twenty-three years for which there are yield figures.[60]

There is no doubt, however, that Earl Patrick was, in some years, buying lime in substantial quantities. In the autumn of 1677 for instance, twenty-four chalders and four bolls of 'lyme' was purchased from Alexander Corbitt, 'lyme' deacon in Dundee, closely followed by a further purchase of sixteen chalders of 'slime'.[61] If lime was put on the land during the winter of 1677-78 it had little beneficial effect, yields on average, fell below 3:1 in 1678 and were a disastrous 2:1 in 1679. The harvest of 1677 had been relatively good however and it is quite possible that Earl Patrick was simply following his policy of advancing his building work as and when leeway in his finances allowed. Amongst the bundle of accounts that includes the purchases of the lime is a receipt for four stones of plastering hair, suggesting that these materials were for building purposes.

The building being carried on at Castle Lyon not only encompassed the castle, its immediate environs, and farm offices, but also the walls that enclosed the gardens, orchards, policies, the woods and the infield land of the new Mains. An idea of the

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[56] See for instance, NRA(S) 885, 91/9/12, (1720).
[57] SAUL, MS36220/879 and 880.
[58] Donaldson, *General View of the Agriculture of the Carse of Gowrie,* 12.
[59] Whyte, *Agriculture and Society,* 65.
[60] Figure 4.10.

scale can be gained from accounts for stone purchased from the Muirtoun quarries in 1688 and 1690, a time when Earl Patrick was writing that a great deal of the work had already been completed.[62]

Extract from Quarrier's Account, 1688:

1,660 wain-fulls	£99 0 0d.
1,153 cartfuls of wall-stone	£45 15 0d.
4,087 pieces of free tailzie[63]	£32 14 0d.
109 pieces of long stone	£36 6 8d.
167 feet tabling	£9 7 0d.
350 slaits.	£5 5 0d.

Extract from Quarrier's Account, 1690:

2,112 pieces of free tailzie	£23 0 4d.
2,095 long stones	£71 13 4d.
1,623 carts, wall-stone	£64 15 4d.
1,300 wain-fulls, wall-stone	£78 0 0d.
3½ roods, 10 ells, flooring	£25 3 8d.
68 wains, wall-stone	£3 8 0d.
110 carts, wall-stone.	£3 13 4d.

As there was no stone suitable for the building work on the estate, it had to be brought from the quarries of Muirtoun, more than two miles away.[64] From there it was all hauled, pulled and carried by oxen and horses whose numbers were well in excess of that required to operate a holding of two ploughs, and in addition to the carriage and hunting horses attached to the household of a seventeenth-century earl. It was, essentially, the dung from all the animals needed to make the thousands of journeys to and from the quarries that provided the extra manure needed. A report concerning the valuation of the Mains of Castle Lyon in 1720 states that the land was 'dunged extraordinarily by means of the vast number of

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[61] NRA(S) 885, 58/6, (1677).
[62] NRA(S) 885, 190/1/22, (1688-90).
[63] Free tailzie: free cut rock.
[64] Now called Mylnfield.

bestial he [Earl Patrick] had occasion for in the time of his building, beside his stables ... it produced wonderfully'.[65]

There were no workable deposits of limestone in the vicinity of the Carse of Gowrie or of coal with which to burn it. Shipping was expensive and Earl Patrick, writing in 1688, regarded grain prices throughout his incumbency as being generally low.[66] If it is assumed that he was aware of the practice of liming and its benefits, it remains debatable whether he would have judged it, on balance, a financial investment sufficiently worthwhile to be given priority within his scheme of improvements at that time.[67] He was, in his own eyes, achieving substantial increases in yield by what he was already doing, his financial resources were stretched and so possibly was his workforce, without taking on the further burden that was the very labour-intensive operation of liming.[68]

The introduction of improved practices and the increased productivity of his lands were integral to the wider and long-term transformation of his homes and estates; indeed they made a necessary contribution to the funding of the project, but this was not their central motivation. What came first was the work carried out on the houses and their immediate environs. While this was to a large extent a matter of status, for Earl Patrick it also went a great deal deeper.

Patrick, Earl of Strathmore was a very practical man who also took great pleasure in material things; these aspects of his character are expressed in the improvement of his castles and grounds and his enjoyment in the purchase of fine furniture, paintings and statuary.[69] Glamis castle and its environs are still, today, a testament to his ambition, determination and taste. What he made of his houses embodies the acute awareness he had of his role in posterity. It was his intention to leave his own family a very different legacy from that which he himself had inherited.[70] It is apparent from his writings that the management and clearance of the debts he inherited were a very major concern and he applied to the task a considerable

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[65] NRA(S) 885, 148/5/62, (1720).
[66] Miller *Glamis Book of Record,* 91.
[67] The cost of liming an acre of land in the Carse of Gowrie, *c.*1740 was described by a tenant in Inchture as being in the region of £60. PKAC, MS100/54.
[68] NRA(S) 885, 190/1/22 (1690).
[69] Miller *Glamis Book of Record,* 91 and 94.
[70] *Ibid.*, 19.

amount of initiative and energy, but evident also was his need to establish a new environment from that which had existed in 1660.[71] The houses he was transforming and the policies he was creating were symbols of a more civilised, peaceful and prosperous country.[72] He was part of a society in which many were intent on moving forward; on consigning to the past the trauma of recent war, defeat and occupation and stepping towards a future less fettered by the internal feuding and strife of preceding centuries.

Earl Patrick saw himself as an influential leader with regard to such reformation and improvements in 'the cuntrie where I live'.[73] In the Carse of Gowrie, the building of new houses, improvements to existing houses, the creation of policies and enclosures and plantings of trees was being carried out on a significant number, if by no means all, estates. The English traveller, Macky, journeying through the Carse of Gowrie in the early part of the eighteenth century described the district as 'the beautifullest spot of Ground in Scotland'. He eulogized the land as 'all a perfect garden' and commented on the number and quality of the houses and policies to be found there.[74] He was admiring the fruits of improvements that were implemented, in part, in the latter half of the seventeenth century.[75]

To pay off his family's debts and pay for his own improvements, Earl Patrick's estates had to be as profitable as possible but, however important, profit was a means rather than an end and when balanced against the aesthetic did not always weigh heaviest. The Lyon family were far from alone among Scotland's elite in being burdened with crippling debt. Yet, resources could be found. For Earl Patrick at least, the building and improvements were a matter of will, determination, resourcefulness and careful budgeting.

Patrick, Earl of Strathmore, admitted that in spite of the long-term benefits brought to the productivity of the land by the creation of the grass parks and policies, the conversion of cultivated land into pasture did incur a loss of income and for that he

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[71] Miller *Glamis Book of Record,* passim.
[72] *Ibid.*, 33.
[73] *Ibid.*
[74] J. Macky, *A Journey Through Scotland* (London, 1723), 142-6.
[75] A more detailed assessment and discussion on the degree and nature of estate improvement being carried out across the Carse of Gowrie in the period *c.*1660-1707 is at 4.6, below.

had to bear a great deal of criticism as a 'waster and prodigal' while carrying through the project. In a Castle Lyon account book he took time to explain and justify his motivation and his actions with regard to the changes he made and the parks he created there. The latter part of this is transcribed below:

> ... for such as has been My care without no small charge labour and applicatione to bring the parking here to the perfectione it hes arrived to that a short time further will compleat it that I cannot fall back so easily to the love of money bonds growing to deny myself the satisfaction I have of the stock of Deer and other uses which they are appropriated for which they yield now yirlie and continually without the care and charge of labour or seed. This last being duly considered and saved the odds of the profit betwixt ley and laboured ground is not so great and those never so much for the first as I am ought not to be so severlie censured as the musers and wretches of the world doe and the vulgar sort calling as upon that acompt would, wasters and prodigals, that there is loss by it is undeniable but not so much as is answerable to so severe a reproach especiallie upon Myself who leaves nothing unessay'd of policie and diligence to render that pairt of the mains which is under labour as fruitful as a cotterman does to his single aiker of land. Let this serve for ane apologie and information in case it be read at any time by those who shall come after me.[76]

That he describes his critics as 'wretches ... and the vulgar sort' suggests his poor opinion of them, whether members of his own class who were without his vision, or from amongst the lower orders - perhaps tenants whose land was caught up in the changes. But their very existence and Earl Patrick's felt need (or indeed his pleasure) in both answering them and justifying his actions to his descendents, demonstrates the concern that existed, at least in some quarters of society, with regard to perceived profligacy and the best use of assets, as well as a measure of economic conservatism.

The enclosing of pasture added an extra dimension to the system of infield and outfield that enabled the total area of cultivated land to be extended while soil

fertility was maintained. The enclosures themselves also afforded options and versatility in cropping and rotation not present in a standard infield-outfield system. It has been argued that the key development in agricultural improvement was the integration of grass and grain and the ability to support a higher density of livestock while simultaneously extending the arable area.[77] The alternation between arable crops and pasture reduced weed establishment in crops and the build up of parasites and infections among livestock. The soil was able to rest when under grass and the ploughing in of the sward together with the fertilising effect of animal droppings enhanced its fertility for both crops and grass. What Earl Patrick created on the Mains of Castle Lyon was by no stretch of the imagination an adoption of the sophisticated system of convertible husbandry as described by E. Kerridge and which he argued marked the real 'Agricultural Revolution' in England.[78] But it was an important, if far from complete, movement in that direction. Both the castle policies and the enclosures that made up the newly created Mains were seen and designed as being capable of carrying either crop or livestock. Earl Patrick writes of the policies 'that they are all so divided that at pleasure they may all of them or any one of them be made corne again'.[79]

An integral part of the system of convertible husbandry, as opposed to the infield system of permanent cropping, was that sown grass seed (or 'artificial' grasses as they came to be known in common parlance) was used to establish the ley break. No evidence has so far been found that this practice was introduced on the Mains of Castle Lyon during the second half of the seventeenth century, or indeed elsewhere in the Carse of Gowrie at this time. Earl Patrick does use the term ley in the extract above when referring to the grass of the policies growing on what had formerly been cultivated infield land, but it should not be inferred that the term was used to signify temporary as opposed to permanent pasture.

While the changes brought about on the Mains of Castle Lyon were for the most part a development and adaptation of the existing infield-outfield system, they were extensive and proved effective. They demonstrate the strides that could be taken in

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[76] NRA(S) 885, 190/1/22, (1690).
[77] M. Overton, *Agricultural Revolution in England: The Transformation of the Agrarian Economy 1500-1850* (Cambridge, 1996), 131.
[78] E. Kerridge, *The Agricultural Revolution* (London, 1967), passim.
[79] NRA(S) 885, 190/1/22 (1690).

improving crop yields without recourse to manures and fertilisers from outwith the estate and against a background of some financial stricture.

As already noted, the level of improvement did not apply evenly to all the crops grown. Pease, even discounting 1694 and 1695, show virtually no improvement across the period, although some relatively high yields were recorded: 7.8:1 for instance in 1683 and 5:1 in 1689 (Figure 4.10). The trend in wheat yield improvement between 1673 and 1693 was in the region of 44% (Figure 4.7) and bere 39% (Figure 4.8); oats showed the greatest increase at 54% (Figure 4.9).

The order of the four-course rotation of wheat, bere, oats and pease in which the crops were grown on the Mains of Castle Lyon was important. This was the preferred method in the more favoured areas of Lowland Scotland where wheat was grown on a commercial basis.[80] The rotation was balanced and gave the most advantage to wheat, the most valuable but also the most demanding crop. Its position in the rotation immediately after the pease allowed the wheat to derive the greatest benefit from their nitrogen fixing qualities. It was, in consequence, the most successful crop in terms of yield on the Mains of Castle Lyon. In the period for which figures are extant it yielded on average 3.7:1 and in the seven years 1687-1693, 4.51:1.

The highest levels of wheat yield were achieved with imported English seed. This shows that the importance of using good quality grain was well understood. In 1688 half a boll of English wheat was tried against ten bolls of Lothian wheat and twelve and a half bolls of Castle Lyon's own saved seed. The English wheat yielded at 14:1, the Lothian wheat 4.4:1 and Castle Lyon's own, 5.2:1.[81] The results make interesting reading when it is considered that grain growing in the Lothians has been regarded as generally the most advanced in Scotland at that time. No judgements can be made on the basis of one very small trial, particularly when it is not known how typical the Lothian sample was, or the conditions in which it was grown. That the trial was conducted at all is significant and says much about the

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[80] Whyte, *Agriculture and Society*, 213-8.
[81] NRA(S) 885, 64/1/15, (1688).

Figure 4.7 Wheat, sown and yield, Mains of Castle Lyon, 1673-1695.

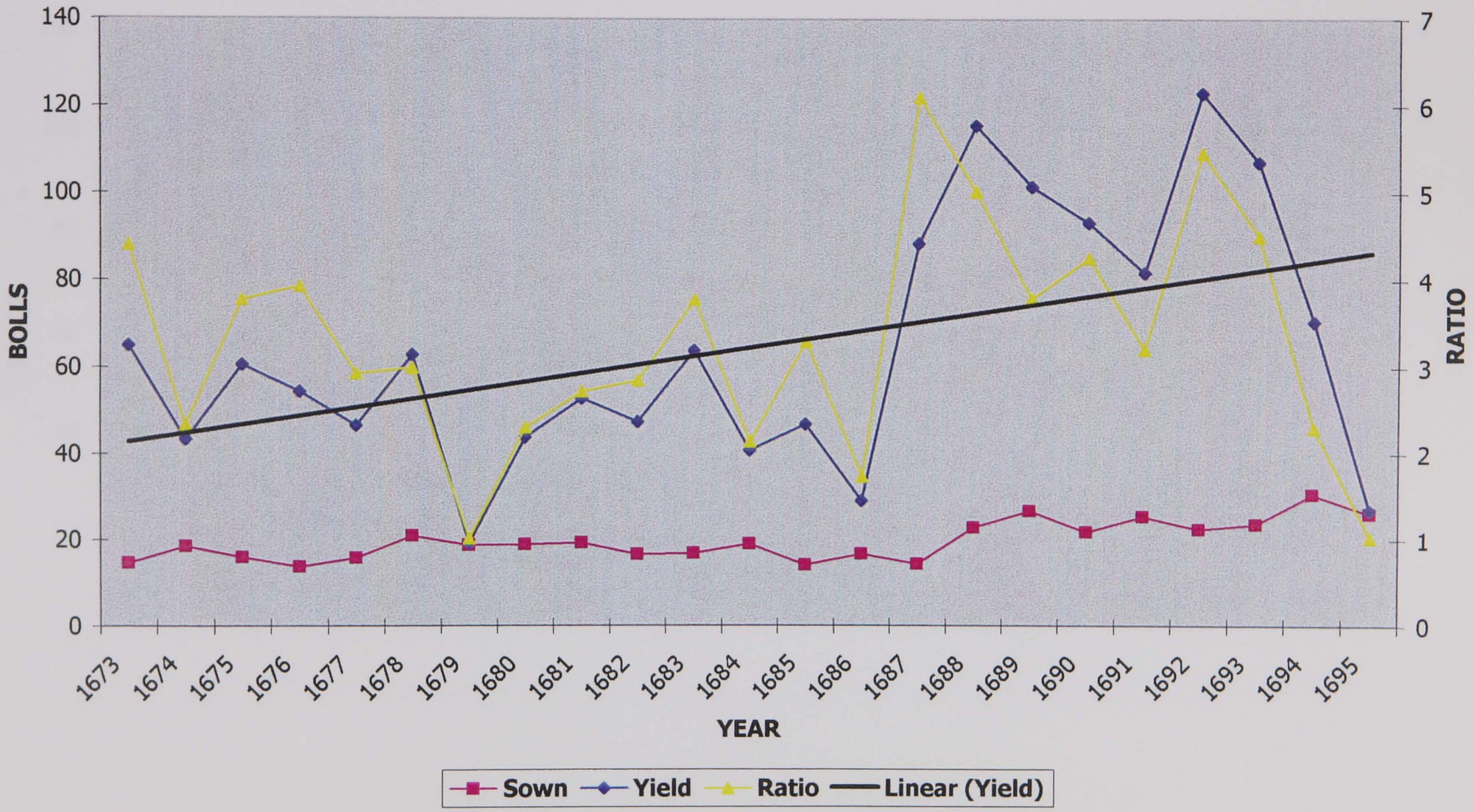


Figure 4.8 Bere, sown and yield, Mains of Castle Lyon, 1673 - 1695.

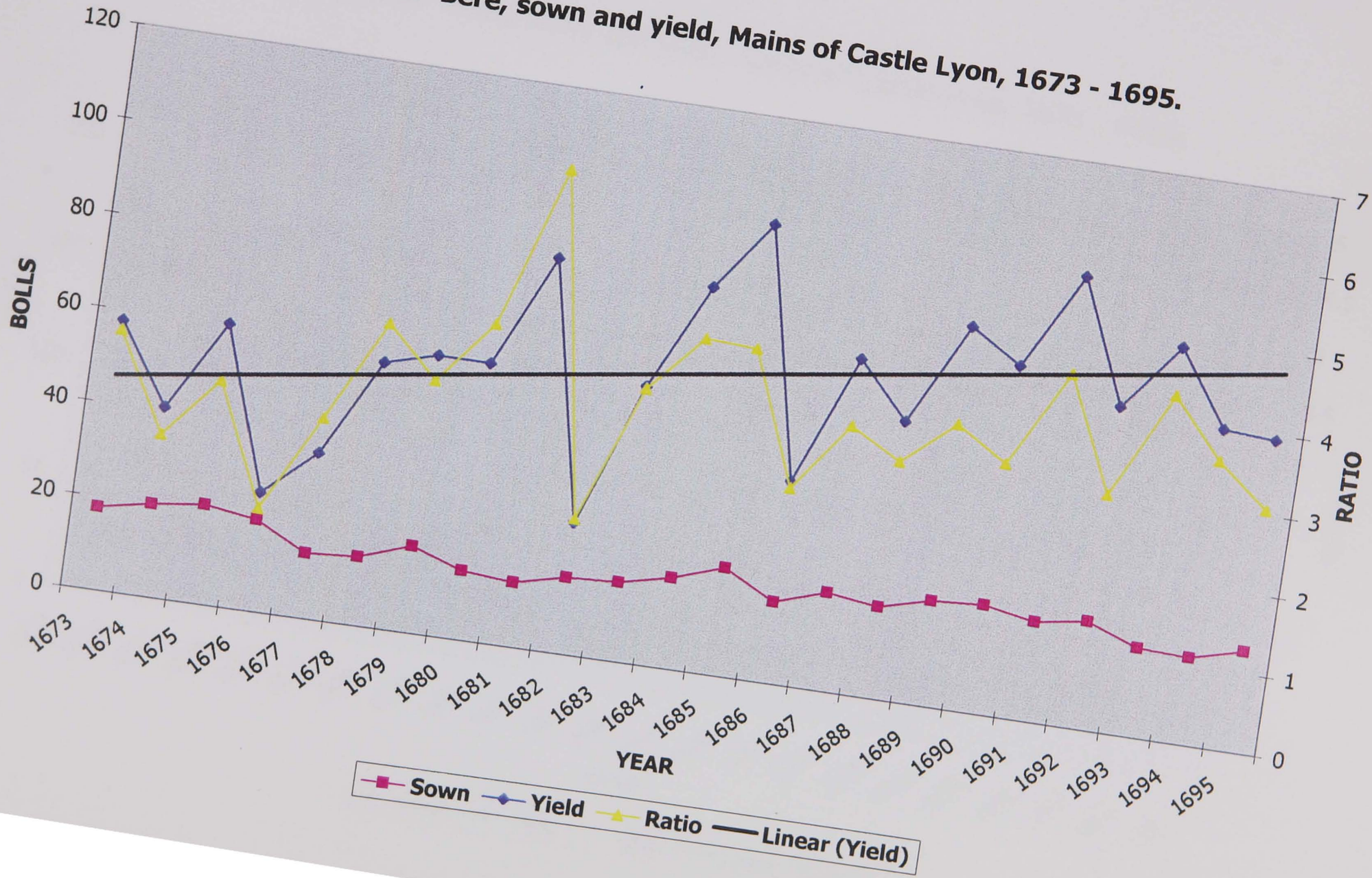


Figure 4.9 Oats, sown and yield, Mains of Castle Lyon, 1673 - 1695.

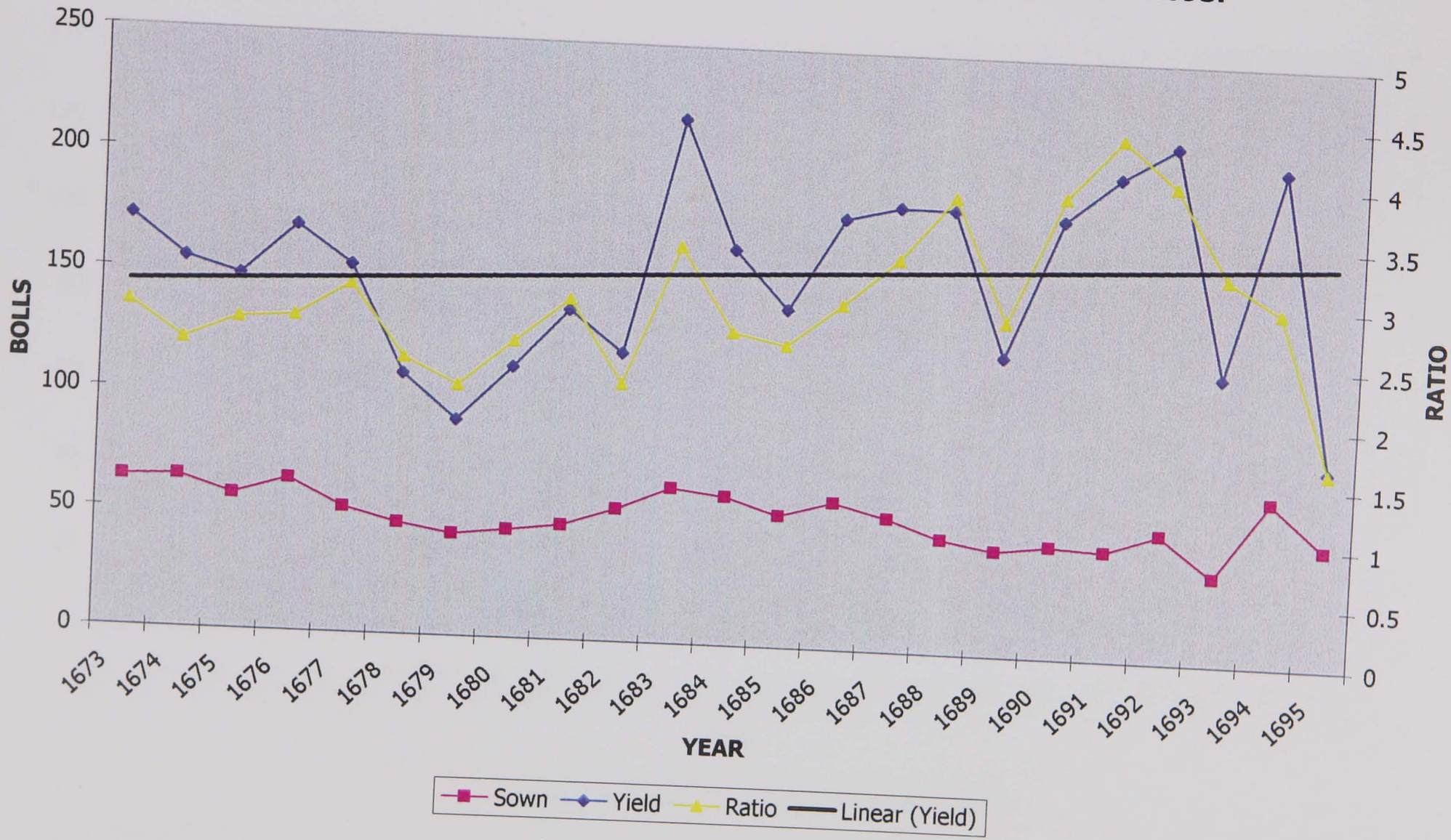
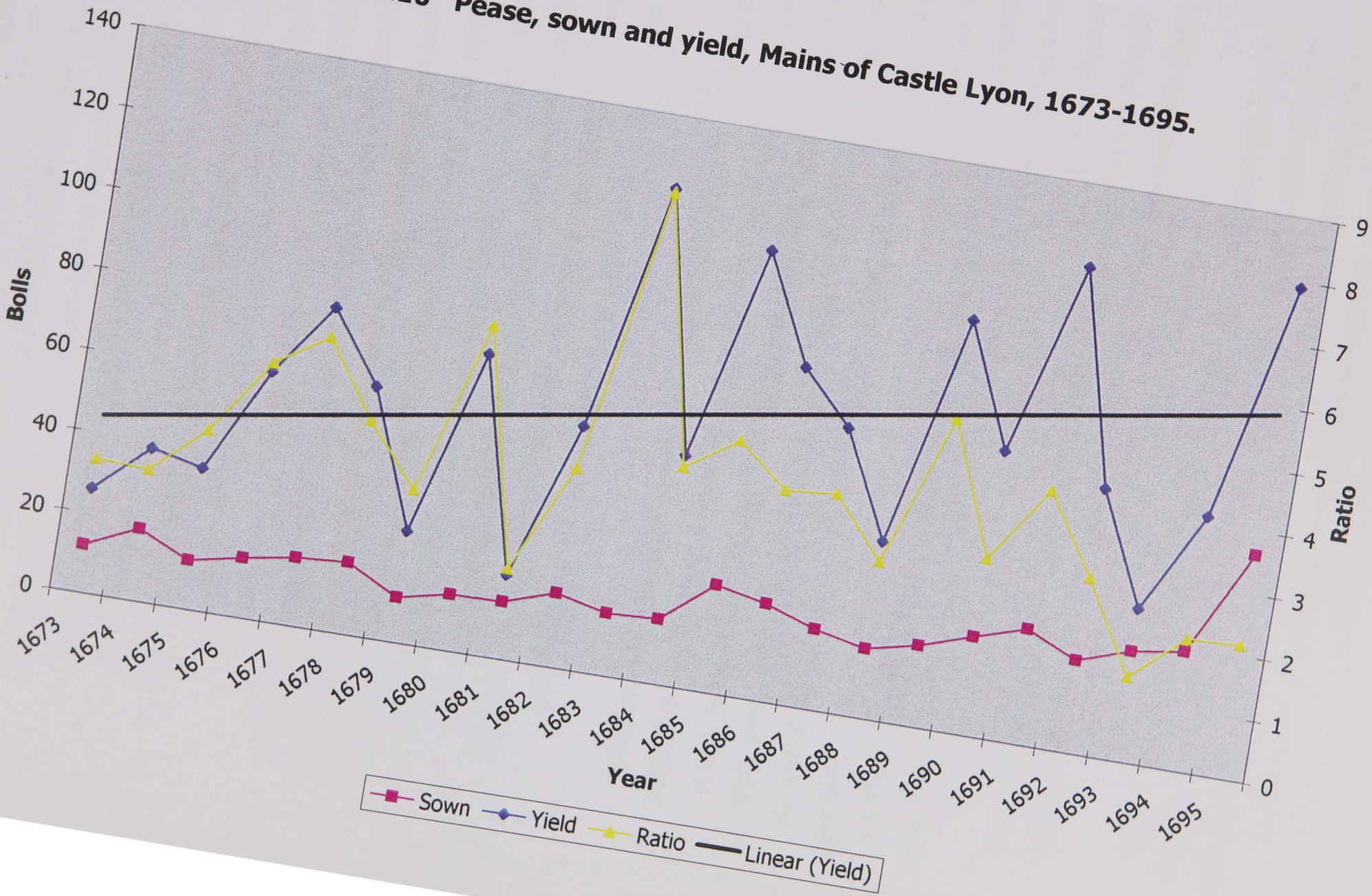


Figure 4.10 Pease, sown and yield, Mains of Castle Lyon, 1673-1695.



nature of the efforts being made at Castle Lyon towards the improvement of productivity there. It is also apparent from the accounts that such trials were conducted regularly. In 1692, for instance, seven bolls of imported English wheat achieved a yield of 9:1 compared with 4.7:1 achieved from home-produced wheat seed in the same year.[82] No Lothian sourced wheat appears to have been sown.

Bere was traditionally a crop that responded well to high levels of nutrition and it suffered to some extent on the Mains of Castle Lyon by following the wheat. The average return was 3.3:1, and did not match the kind of yields that have been recorded on other Lowland Scottish farms in the seventeenth century where, in the absence of wheat, it would have received the majority of the manure.[83] Oats were, for the most part, planted on relatively exhausted ground, following after wheat and bere on the infield land and as part of successive crops on the outfield. It was not surprising therefore, that oats should return the least well of the four Mains crops, with an average yield over the period of only 3:1. However, the ability of oats to perform much better in poor conditions than the other crops enabled it to produce acceptable yields in circumstances where other grains were likely to have failed.

The overall degree of improvement in the yields in such circumstances was impressive, but their overall level was not perhaps, even by seventeenth century standards, particularly high. The scarcity of comprehensive figures from other farms, either locally or from other areas, makes it difficult to gauge how typical were the Castle Lyon yields. Traditionally, a yield of 3:1 – 'Ane to saw, ane to gnaw and ane to pay the laird witha' - has been regarded as a rule of thumb in respect of pre-Improvement agriculture, but there has also been a sense that this was very much a base figure and reflected subsistence production.[84] In testaments pertaining to the Carse of Gowrie and dating from the second half of the seventeenth century, wheat, pease and bere were all estimated as yielding the 'fourth corn' (i.e. 4:1) and oats the third corn (i.e. 3:1), when assessments of growing crops were made.[85] It can be assumed that such assessments would incline to a favourable rather than an unfavourable figure and indicates that an average between 3:1 and 4:1 was the expected and accepted yield.

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[82] NRA(S) 885, 64/1/18.
[83] Whyte, *Agriculture and Society*, 75-6.
[84] Quoted in Whyte, *Agriculture and Society*, 73.

Donaldson, writing in 1697, suggests that 4:1 was a reasonable return from infield land.[86] This figure was generally supported by other writers of the period, but it was also emphasised that improved practices such as the use of additional dung or other fertilisers existed and could and did improve yields considerably.[87] These include Martin Martin's account of very high returns in the Western Isles, where small plots with heavy applications of seaweed were recorded as producing yields of 20:1 in bere and Alexander Troup's description of the north coast of Buchan where manure improved with turf allowed yields of 5:1 and 6:1 to be obtained.[88]

There is obviously the potential for a very considerable difference in the yields obtained from small individual plots that are able to benefit from close care and attention and a great deal of manure, compared to those obtained from across a large area of land that embraced both infield and outfield. As previously stated, it is impossible to make effective comparisons between isolated figures.

Runs of crop yields from the Cassillis Estates in Wigtownshire in the south west of Scotland, for 1655-1661 and from the Mains of Dundas, near South Queensferry, from 1655-1662 have, however, been published.[89] The figures for the Cassillis estate comprise oats and some bere. The oats figures would seem on the whole to be below those achieved on Castle Lyon, even when compared with the period 1673 to 1682, when the lowest yields (an average of 2.5:1) were recorded there. Only a small number of bere yields are published for Cassillis (for the years 1659-1661), they are on average, however, considerably higher than any achieved at Castle Lyon, even in the best years. This suggests that the bere on the Cassillis farms benefited from most if not all the available manure.

The Mains of Dundas, situated in the Lothians, should provide a more genuine comparison with Castle Lyon as both were situated on the east coast and near sea level, even though there is no common period in terms of the years for which

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[85] NAS, St Andrews Commissary Court, 20/4/14.
[86] J. Donaldson, *Husbandry Anatomised* (Edinburgh, 1699), 28
[87] Whyte, *Agriculture and Society*, 73.
[88] M. Martin, *Description of the Western Isles* (London, 1703), 42, 139. A. Gordon, 'An Account of the North Side of the coast of Buchan, 1663', in *Collections for a History of the Shires of Aberdeen and Banff* (Spalding Club, 1843), 99-107.
[89] Whyte, *Agriculture and Society,* 74-77.

figures are available. Wheat and pease were also among the crops grown on the Mains of Dundas. The oat yield at Dundas averaged consistently above 3:1 and compared comfortably with the best years for oats on Castle Lyon. Wheat yields achieved on the Mains of Dundas were, however, considerably lower, failing to reach 3:1 in any of the years recorded. Bere yields were far superior to those gained on Castle Lyon, averaging above 5:1. No figures are given for the pease. There were two important differences in the methods used on the Mains of Dundas from the practices followed at Castle Lyon that must be considered. At Dundas, lime was used as a fertiliser and bere, rather than wheat, followed the pease in the rotation.[90] All the Dundas crops would benefit from the liming that was denied the crops at Castle Lyon. The bere on the Mains of Dundas would also gain from the nitrogen fixing qualities of the legume crop it followed, while the wheat, sown at the end of the rotation would, on the other hand, receive least assistance. This was, in effect, the opposite of the system used on Castle Lyon. With such information it is possible to make some useful comparisons between the Castle Lyon and Dundas figures. Without it however, effective comparison is impossible.

Neither is it a simple matter to make comparisons with the crop yields attained in England or Europe in the later seventeenth century. Hard evidence would seem to be as rare there as in Scotland. However, a great deal of work has been carried out by a number of historical geographers in an effort to determine English crop yields in the early modern period using probate inventories that included the assessment of a dead farmer's crops. These are based on the appraisers' estimates of the growing crop and pertain to counties in the south and east of England.[91] The counties from which the inventories were drawn were in regions that were predominantly arable. Although, like Scotland they embraced both poor and fertile soils, they were climatically well suited to cereal growing and, for the most part, within reach of London and the commercial incentive to raise productivity that the needs of such a large urban population encouraged.[92]

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[90] *Ibid.*
[91] A discussion of the various methods used and results obtained is to be found in P. Glennie, 'Crop yields in early modern England' in B. M. S. Campbell and M. Overton, (eds.,) *Land Labour and Livestock* (Manchester, 1991), 255-283.
[92] Campbell and Overton, *Land, Labour and Livestock,* 198.

The yields estimated from the information in the probate inventories are given in terms of the amount of bushels of grain yielded per acre and hectolitres per hectare. For the yields from the Mains of Castle Lyon, the amount of seed used is known, but the exact acreage sown is not. Any comparisons between the yields from the Mains of Castle Lyon and the English figures from the same period must therefore incorporate a large number of estimates and assumptions. The most significant of these is the amount of seed corn sown per acre at Castle Lyon. The writings of contemporary commentators and the limited evidence available in estate records suggest that in Lowland Scotland in the later seventeenth century, the accepted norm was approximately one boll per acre.[93] This is similar to the sowing rate on farms at Hatfield in Hertfordshire and Winterborne in Wiltshire in the 1680s, where it was recorded that per English acre, between 3.20 and 3.37 bushels of wheat were sown and between 4.54 and 4.99 bushels of oats.[94] (One boll of wheat or pease, Perthshire measure, was equal to 4.21 English bushels or 1.53 hectolitres; one boll of oats or barley, Perthshire measure, was equal to 6.21 English bushels or 2.26 hectolitres.[95] One Scots acre was equal to 1.26 statute acres or 0.51 hectares.) Tables 4.1 and 4.2 below set out, respectively, yields of wheat and oats achieved on the Mains of Castle Lyon in terms of English bushels per English acre and as hectolitres per hectare at the estimated sown rate of one boll per Scots acre. For comparative purposes, a selection of yields from England and Western Europe are also included.

It can be seen that, on average, the yields achieved on the Mains of Castle Lyon were consistently below the mean found in the south of England but had some similarity to continental returns, particularly with regard to oat production. The only years for which there is a direct comparison with English figures is 1683-1689, when the Castle Lyon wheat averaged some 17% below and the oats 32% below those from the south. Only in exceptional years for oat production at Castle Lyon did their yield approach the English mean. However, for wheat - the crop that at Castle Lyon received the greatest attention and input and also included a proportion grown from English seed – in the best years such as 1687 and 1688, yields well above the

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[93] Whyte, *Agriculture and Society,* 77.
[94] See Table XXX, 'Sowing rates of seed: bushels per acre' in Thirsk, *The Agrarian History of England and Wales,* V ii, 881.

English average were being achieved. The trial plot of English seed wheat in 1688 equalled the very best English returns. It is apparent that in the majority of years, the poorer quality of the seed-corn used and a long-term investment in soil improvement that was probably lower, were factors that inhibited the crop returns achieved at Castle Lyon in comparison to those in the south of England.[96] However, when the much greater severity of the Scottish climate is taken into account, the wheat yields that were being achieved by the late 1680s are remarkable and are evidence of the scale of the improvements that were being implemented.[97]

As stated, the calculations of the yield per acre on the Mains of Castle Lyon have been based on the assumption that approximately one boll of seed corn was sown per Scots acre. If this rate is correct, then it must be assumed that of the two ploughgates to which the Mains extended, little more than half was planted with the four principal crops in any one year. For the twenty-four years from 1673 to 1696 the average number of bolls sown and, therefore, the average number of Scots acres planted, was 116. As well as the parts of outfield left fallow, other land not included would be the cottar-lands and those areas planted with crops such as flax and mustard.

Records of the corns sown by the Earl of Strathmore's servants on the smallholding of the deceased Elspet Donaldson in 1681, suggest that rates substantially above one boll per acre were sometimes used.[98] Certainly, when the quality of seed-corn was poor, it was usual to sow more densely. If and when such was the case on the Mains of Castle Lyon, then the actual area under crop would be even smaller and the calculated yields per acre would need to be increased proportionately.

This study of crop yields has revealed how, on the Mains of Castle Lyon between the years 1672-1696 and starting from a very low base, a considerable increase in

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[95] Calculated from the county table for Perthshire in *A Proposal For uniformity of Weights and Measures in Scotland by execution of the Laws now in force* (Printed for Charles Elliot, Parliament Square, 1779), 110-111.

[96] Long-term investment at Castle Lyon was limited by lack of funds as well as the limited means by which to improve fertility from the low starting point in 1660. Low grain prices discouraged any heavy financial investment.

[97] The effects of wind exposure in Edinburgh has been measured at 270% above that encountered in the English Home Counties. (Conversation with Professor Charles McKean.)

the yields of the principal arable crops were achieved. It has shown how these were not brought about in isolation, but were part of a much wider and integrated programme, the principal focus of which was the improvement of the house and environs of Castle Lyon.

By the end of the period for which records are extant and before the onset of the famine period of the 1690s, the yields achieved with imported seed wheat were approaching those estimated for counties in the south of England. The importation of English seed indicates a knowledge and appreciation of the farming practices and improvements that were being carried on in that country at that time. However, the under-developed state of Scotland's internal economy, her poor situation with regard to overseas trade and the, at best, stagnation in the urban population, militated against any heavy capital investment in agriculture; as did the level of the Strathmore family's own indebtedness.

Earl Patrick was a very astute estate owner, forward-thinking and with a great deal of vision, yet his primary motivation remained that of status and display rather than profit. In this he reflected the ambition of his class in the second half of the seventeenth century and also the nature of some of the limitations that beset the progress of commercialisation.

[98] See Chapter 3.6, above.

Table 4.1 Comparison of Wheat Yields on the Mains of Castle Lyon (with British and metric equivalents) with recorded, calculated and average yields from England and Western Europe. **(For notes, see page 249, below.)**

Crop Year/s	Mains of Castle Lyon, Longforgan			England (all from locations in the south and east of England)					Western Europe		
	Seed/Yield ratio (Seed = 1)	Bushels per Sown Acre[a]	Hecto-litres per Hectare[a]	Seed/Yield ratio (Seed = 1)			Bushels per Sown Acre	Hecto-litres per Hectare	Seed/Yield ratio (Seed = 1)		
				Av.	Min	Max			Av.	Min	Max.
1200-99[b]	-	-	-	3.8	1.8	5.8	-	-	-	-	-
1300-99[b]	-	-	-	3.8	1.6	5.7	-	-	-	-	-
1400-99[b]	-	-	-	4.6	2.3	8.0	-	-	-	-	-
1504-37[b]	-	-	-	6.6	4.6	9.3	-	-	-	-	-
1549-64[c]	-	-	-	-	-	-	-	-	4.4	3.4	5.4
1562[d]	-	-	-	3.0	-	-	-	-	-	-	-
1600[e]	-	-	-	-	-	-	-	10.4	-	-	-
1612-20[f]	-	-	-	11.6	5.5	20.2	-	-	-	-	-
1618-31[g]	-	-	-	4.1	3.0	5.4	-	-	-	-	-
1651-93[h]	-	-	-	-	-	-	-	-	4.1	2.9	6.8
1660-89[i]	-	-	-	-	-	-	15.5	-	-	-	-
1670-71[j]	-	-	-	14.2	10.5	20.0	32.0	-	-	-	-
1673-95[k]	3.3	11.0	10.0	-	-	-	-	-	-	-	-
1682	2.9	9.7	8.7	-	-	-	10.0[l]	-	-	-	-
1682-83[l]	-	-	-	14.8	-	-	-	-	-	-	-
1683	3.8	12.7	11.4	-	-	-	-	-	3.5[m]	-	-
1683-89	3.7[k]	12.4[k]	11.1[k]	-	-	-	15.8[n]	-	-	-	-
1687[o]	6.1	20.4	18.3	-	-	-	-	-	-	-	-
1688[p]	14.0	46.8	42.0	-	-	-	-	-	-	-	-
1690-95[k]	3.4	11.4	10.2	-	-	-	-	-	-	-	-
1694-99[q]	-	-	-	-	-	-	-	6.0	-	-	-
1690-99[n]	-	-	-	-	-	-	10.5	-	-	-	-
1700[e]	-	-	-	-	-	-	-	14.2	-	-	-
1720-49[i]	-	-	-	-	-		19.6	-	-	-	-
1776	-	-	-	-	-	-	-	-	9.0[r] 5.0[s]	-	-
***c.*1800**	-	-	-	-	-	-	22.0[i]	19.6[e]	8-10[t]	-	16-20[t]
1812[u]	-	-	-	-	-	-	-	-	8.0	5.0	12.0
1830[e]	-	-	-	-	-	-	19.3	-	-	-	-

[a] Calculated on the assumption that seed was sown at the rate of one boll per Scots acre.

[b] Source: B. H. Slicker Van Bath, *Agrarian History of Western Europe, 1500-1850* (London, 1963), 328.

[c] Location: Weimar, Germany. Source: Slicker Van Bath, *Agrarian History of Western Europe,* 330.

[d] Location: Sussex. Source: Slicker Van Bath, *Agrarian History of Western Europe,* 330.

[e] Yields calculated from probate inventories from the counties of Hampshire, Hertfordshire, Norfolk, Suffolk and Lincolnshire Source: Overton and Campbell, 'Statistics of production and productivity', 199.

[f] Location: Harwell. Source: Slicker Van Bath, *Agrarian History of Western Europe,* 328-330.

[g] Location: Gloucestershire. Source: Slicker Van Bath, *Agrarian History of Western Europe,* 328-330.

[h] Location: Gorbitz, Germany. Source: Slicker Van Bath, *Agrarian History of Western Europe,* 330.

[i] Estimated yields drawn from probate inventories. Source: J. Theobold, 'Agricultural productivity in Woodland High Suffolk, 1600-1850', in *AgHR,* Vol. 50,Pt.1 (2002), 8-9.

[j] Yields calculated on the assumed basis of 40 bushels to the load. Location: W. Horsley, Surrey. Source: J. Thirsk, (ed.), *The Agrarian History of England and Wales,* Vol. V 1640-1750, ii (Cambridge, 1985), 881-883.

[k] Average for period.

[l] Source: Thirsk, *Agrarian History,* Vol. V ii, 881-883.

[m] Location: Hackenstedt, Germany. Source: Slicker Van Bath, *Agrarian History of Western Europe,* 330.

[n] Yields calculated from probate inventories. Location: Hampshire. Source: P. Glennie, 'Crop yields in early modern England', in Campbell and Overton, *Land, Labour and Livestock,* 273.

[o] Year of highest yield ratio for all the Castle Lyon wheat crop.

[p] Yield from trial of English wheat seed (half boll sown).

[q] Location: Ostra, Germany. Source: Slicker Van Bath, *Agrarian History of Western Europe,* 330.

[r] Location: Lille, France. Source: Slicker Van Bath, *Agrarian History of Western Europe,* 332.

[s] Location: Quimper, France. Source: Slicker Van Bath, *Agrarian History of Western Europe,* 332.

[t] Location: Franeker, Netherlands. Source: Slicker Van Bath, *Agrarian History of Western Europe,* 332.

[u] Total for Netherlands. Source: Slicker Van Bath, *Agrarian History of Western Europe,* 332.

Table 4.2 Comparison of Oat Yields on the Mains of Castle Lyon (with British and metric equivalents) with recorded, calculated and average yields from England and Western Europe. **(For notes, see page 251, below.)**

Crop Year/s	Mains of Castle Lyon, Longforgan			England (all from locations in the south and east of England)					Western Europe		
	Seed/Yield ratio (Seed = 1)	Bushels per Sown Acre[a]	Hecto-litres per Hectare[a]	Seed/Yield ratio (Seed = 1)			Bushels per Sown Acre	Hecto-litres per Hectare	Seed/Yield ratio (Seed = 1)		
				Av.	Min	Max			Av.	Min	Max.
1200-99[b]	-	-	-	2.4	1.2	3.9	-	-	-	-	-
1300-99[b]	-	-	-	2.5	1.3	4.4	-	-	-	-	-
1400-99[b]	-	-	-	4.4	1.5	12.5	-	-	-	-	-
1504-37[b]	-	-	-	4.4	3.6	5.2	-	-	-	-	-
1549-64[b]	-	-	-	-	-	-	-	-	5.3	2.6	7.7
1562[d]	-	-	-	3.2	-	-	-	-	-	-	-
1600[e]	-	-	-	-	-	-	-	13.7	-	-	-
1604-17[f]	-	-	-	3.7	3.6	3.7	-	-	-	-	-
1618-31[g]	-	-	-	2.1	1.4	3.0	-	-	-	-	-
1651-93[h]	-	-	-	-	-	-	-	-	3.5	2.3	5.2
1660-89[i]	-	-	-	-	-	-	17.2	-	-	-	-
1670-71[j]	-	-	-	8.2	7.6	13.3	34.4	-	-	-	-
1673-95[k]	2.9	14.3	12.9	-	-	-	-	-	-	-	-
1682	2.2	10.8	9.8	-	-	-	20.0[l]	-	-	-	-
1683	3.4	16.8	15.1	-	-	-	-	-	2.5[m]	-	-
1684[l]	-	-	-	11.6	-	-	-	-	-	-	-
1683-89	3.1[k]	15.3	13.7[k]	-	-	-	22.1[n]	-	-	-	-
1691[o]	6.1	30.1	27.0	-	-	-	-	-	-	-	-
1690-95[k]	3.3	16.3	14.6	-	-	-	-	-	-	-	-
1694-99[p]	-	-	-	-	-	-	-	-	-	-	-
1690-99[n]	-	-	-	-	-	-	17.7	-	-	-	-
1690-1719[i]	-	-	-	-	-	-	23.3	-	-	-	-
1700[e]	-	-	-	-	-	-	-	19.6	-	-	-
1750-69	-	-	-	-	-	-	22.7	-	-	-	-
1776	-	-	-	-	-	-	-	-	5.0[r] 8.0[s]	-	-
***c.*1800**	-	-	-	-	-	-	36.0[i]	28.5[e]	10-11[t]	-	20-22[t]
1812[u]	-	-	-	-	-	-	-	-	11.1	-	-
1830[e]	-	-	-	-	-	-	30.0	-	-	-	-

[a] Calculated on the assumption that seed was sown at the rate of one boll per Scots acre.

[b] Source: B. H. Slicker Van Bath, *Agrarian History of Western Europe, 1500-1850* (London, 1963), 329.

[c] Location: Weimar, Germany. Source: Slicker Van Bath, *Agrarian History of Western Europe,* 331.

[d] Location: Sussex. Source: Slicker Van Bath, *Agrarian History of Western Europe,* 331.

[e] Yields calculated from probate inventories from the counties of Hampshire, Hertfordshire, Norfolk, Suffolk and Lincolnshire Source: Overton and Campbell, 'Statistics of production and productivity', 199.

[f] Location: Nibley, Gloucs. Source: Slicker Van Bath, *Agrarian History of Western Europe,* 331.

[g] Location: Gloucestershire. Source: Slicker Van Bath, *Agrarian History of Western Europe,* 328-330.

[h] Location: Gorbitz, Germany. Source: Slicker Van Bath, *Agrarian History of Western Europe,* 330.

[i] Estimated yields drawn from probate inventories. Source: J. Theobold, 'Agricultural productivity in Woodland High Suffolk, 1600-1850', in *AgHR,* Vol. 50,Pt.1 (2002), 8-9.

[j] Yields calculated on the assumed basis of 40 bushels to the load. Location: W. Horsley, Surrey. Source: J. Thirsk, (ed.), *The Agrarian History of England and Wales,* Vol. V 1640-1750, ii (Cambridge, 1985), 881-883.

[k] Average for period.

[l] Source: Thirsk, *Agrarian History,* Vol. V ii, 881-883.

[m] Location: Hackenstedt, Germany. Source: Slicker Van Bath, *Agrarian History of Western Europe,* 331.

[n] Yields calculated from probate inventories. Location: Hampshire. Source: P. Glennie, 'Crop yields in early modern England', in Campbell and Overton, *Land, Labour and Livestock,* 273.

[o] Year of highest yield ratio for the Castle Lyon oat crop.

[p] Location: Ostra, Germany. Source: Slicker Van Bath, *Agrarian History of Western Europe,* 331.

[r] Location: Lille, France. Source: Slicker Van Bath, *Agrarian History of Western Europe,* 333.

[s] Location: Vitre, France. Source: Slicker Van Bath, *Agrarian History of Western Europe,* 333.

[t] Location: Beemster, Netherlands. Source: Slicker Van Bath, *Agrarian History of Western Europe,* 333.

[u] Total for Netherlands. Source: Slicker Van Bath, *Agrarian History of Western Europe,* 333.

Appendix 4.4(1): Wheat Yields, Mains of Castle Lyon, 1672-1696

Source: Papers of the Earl of Strathmore, NRA(S) 885.

Reference	Crop Year	Total Sown (bolls)	Total Yield (bolls)	Ratio
190/2/8	1672		73.5	
190/2/5	1673	14.75	65	4.41
51/1/15 and 190/2/5	1674	18.5	43.31	2.34
51/1/15 and 16	1675	16.00	60.56	3.79
51/1/16 and 190/1/9	1676	13.81	54.38	3.94
190/1/9 and10	1677	15.88	46.56	2.93
190/1/10 and 12	1678	21.00	62.94	3.00
54/1/10 and 190/1/12	1679	18.85	19.25	1.02
54/1/10	1680	19.00[1]	43.88	2.31
64/1/7 and 8	1681	19.38	52.86	2.73
64/1/8 and 9	1682	16.63	47.44	2.85
64/1/9 and 11	1683	16.88	64.00	3.80
64/1/11	1684	19.06	40.88	2.14
64/1/12	1685	14.19	46.94	3.31
64/1/13	1686	16.75	29.19	1.74
64/1/13	1687	14.50	88.69	6.12
64/1/14	1688	23.00	115.75	5.03
64/1/15	1689	26.75	101.75	3.80
64/1/16	1690	21.88	93.50	4.27
64/1/17	1691	25.50	82.00	3.22
64/1/18	1692	22.50	123.06	5.47
64/1/19	1693	23.75	107.25	4.50
64/1/20	1694	30.63	70.70	2.31
64/1/21	1695	26.13	27.00	1.03
64/1/22	1696	23.50		

[1] Estimated amount (see pp213-214, above).

Appendix 4.4(2): Bere Yields, Mains of Castle Lyon, 1672-1696

Source: Papers of the Earl of Strathmore, NRA(S) 885.

Reference	Crop Year	Total Sown (bolls)	Total Yield (bolls)	Ratio
190/2/8	1672		53.00	
190/2/5	1673	17.75	57.75	3.25
51/1/15 and 190/2/5	1674	20.00	40.81	2.04
51/1/15 and 16	1675	21.43	60.24	2.81
51/1/16 and 190/1/9	1676	19.75	25.69	1.30
190/1/9 and10	1677	14.13	35.72	2.53
190/1/10 and 12	1678	14.94	56.81	3.80
54/1/10 and 190/1/12	1679	18.80	59.88	3.19
54/1/10	1680	15.50	59.75	3.98
64/1/7 and 8	1681	14.00	83.88	5.99
64/1/8 and 9	1682	16.63	28.56	1.72
64/1/9 and 11	1683	17.25	59.63	3.46
64/1/11	1684	19.75	82.50	4.18
64/1/12	1685	23.50	97.44	4.15
64/1/13	1686	17.75	44.00	2.48
64/1/13	1687	21.41	72.00	3.36
64/1/14	1688	20.00	60.25	3.01
64/1/15	1689	23.00	82.25	3.58
64/1/16	1690	23.75	75.50	3.18
64/1/17	1691	21.81	96.00	4.40
64/1/18	1692	23.50	70.00	2.98
64/1/19	1693	19.50	84.25	4.32
64/1/20	1694	19.00	68.25	3.59
64/1/21	1695	22.00	67.47	3.07
64/1/22	1696	26.75		

Appendix 4.4(3): Oat Yields, Mains of Castle Lyon, 1672-1696

Source: Papers of the Earl of Strathmore, NRA(S) 885.

Reference	Crop Year	Total Sown (bolls)	Total Yield (bolls)	Ratio
190/2/8	1672		168.75	
190/2/5	1673	63.00	172.00	2.73
51/1/15 and 190/2/5	1674	64.00	155.15	2.42
51/1/15 and 16	1675	56.81	148.75	2.62
51/1/16 and 190/1/9	1676	64.03	169.94	2.65
190/1/9 and10	1677	52.63	154.25	2.93
190/1/10 and 12	1678	47.00	109.69	2.33
54/1/10 and 190/1/12	1679	43.00	91.00	2.12
54/1/10	1680	45.50	114.00	2.50
64/1/7 and 8	1681	48.31	138.88	2.87
64/1/8 and 9	1682	55.83	121.63	2.18
64/1/9 and 11	1683	65.69	219.81	3.35
64/1/11	1684	62.91	166.56	2.65
64/1/12	1685	55.75	142.53	2.56
64/1/13	1686	62.19	181.38	2.92
64/1/13	1687	56.50	187.00	3.31
64/1/14	1688	48.50	186.63	3.85
64/1/15	1689	44.75	126.25	2.82
64/1/16	1690	47.50	184.25	3.88
64/1/17	1691	46.25	202.50	4.38
64/1/18	1692	54.00	216.13	4.00
64/1/19	1693	37.19	120.93	3.25
64/1/20	1694	69.49	207.19	2.98
64/1/21	1695	50.25	83.13	1.65
64/1/22	1696	80.88		

Appendix 4.4(4) Pease Yields, Mains of Castle Lyon, 1672-1696

Source: Papers of the Earl of Strathmore, NRA(S) 885.

Reference	Crop Year	Total Sown (bolls)	Total Yield (bolls)	Ratio
190/2/8	1672		49.63	
190/2/5	1673	12.00	26.00	2.17
51/1/15 and 190/2/5	1674	18.00	38.13	2.12
51/1/15 and 16	1675	12.25	35.38	2.89
51/1/16 and 190/1/9	1676	15.00	61.63	4.11
190/1/9 and10	1677	17.09	79.63	4.66
190/1/10 and 12	1678	18.00	62.13	3.45
54/1/10 and 190/1/12	1679	11.33	28.00	2.48
54/1/10	1680	14.18	74.51	5.25
64/1/7 and 8	1681	14.38	21.14	1.47
64/1/8 and 9	1682	18.75	60.75	3.24
64/1/9 and 11	1683	15.68	122.25	7.80
64/1/11	1684	16.31	57.63	3.53
64/1/12	1685	27.13	111.06	4.09
64/1/13	1686	24.50	84.00	3.43
64/1/13	1687	20.25	71.00	3.51
64/1/14	1688	17.50	44.63	2.55
64/1/15	1689	20.44	102.32	5.01
64/1/16	1690	24.88	71.75	2.88
64/1/17	1691	29.00	119.75	4.13
64/1/18	1692	23.38	66.69	2.85
64/1/19	1693	27.88	38.50	1.38
64/1/20	1694	29.88	64.00	2.14
64/1/21	1695	56.50	123.00	2.18
64/1/22	1696	19.75		

4.5 ENCLOSURE

The preceding chapter demonstrated that the agricultural improvements achieved at Castle Lyon in the second half of the seventeenth century were an important part of a wider programme of improvement and modernisation. Integral to these were the establishment of permanent enclosures. A study of the extent and nature of enclosures in the Carse of Gowrie and the circumstances of their creation, can give some insight into the forces and the thinking that fostered such investment and early improvement. It also highlights some of the principal obstacles, beyond the economic, that existed at that time and which lay in the path of modernisation.

The consolidation and enclosure of land had the most obvious physical impact of any agricultural improvement in the way in which it changed the face of the countryside. T. M. Devine has demonstrated how, when carried out on a large scale in the later eighteenth and early nineteenth centuries, it had an immense effect on rural society in Lowland Scotland.[1] It facilitated the creation of independent farm units within which the system and methods of farming could be both flexible and efficient and 'where the drive and initiative of the individual could be freely expressed'.[2] I. D. Whyte writes of the wide conceptual gulf that existed between a holding which consisted of a series of scattered strips among the infields and outfields of a ferm toun and one which was composed of a number of separate, compact and contiguous enclosed fields.[3] A very great deal of economic development and social change was required before this gulf could be bridged.

In the Carse of Gowrie in the second half of the seventeenth century some of the early stages in this process were apparent. The presence of policies and enclosures around country houses was becoming more and more common. They symbolised the developments that were occurring in the rural economy and also the changing

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[1] Devine, *Transformation*, passim.
[2] Whyte, *Agriculture and Society*, 113.
[3] *Ibid.*

nature of rural society. While their purpose was both aesthetic and practical, the motivations behind the creation of enclosures were complex. Their effects were also very far reaching.

The development of enclosure in Scotland from the seventeenth to the early nineteenth centuries can be seen as proceeding in a series of stages in which the improvements started with the country house and radiated outwards; the enclosures becoming more utilitarian and less ornamental as their scale increased.[4] I. D. Whyte writes that the surveys of John Adair 'are acknowledged to show settlement with reasonable accuracy. Thus they probably present a fairly good picture of the state of enclosure'.[5] In the Carse of Gowrie, with the significant exception of an area around and linking the villages of Inchture and Longforgan, the majority of developments as depicted[6] would seem to be connected directly to the residences and, at the time of the survey, go little further than offices, gardens and some planting. This suggests that the focus of the majority of proprietors at this stage was the condition, style and setting of their houses and of motives rooted in the aesthetic and the display of status, rather than in commercial enterprise.

Adair's map of the area depicts twenty-three country houses in the district as either being set amongst trees or with an enclosure in their immediate vicinity.[7] Eleven of these, Glendoick, Fingask, Megginch, Murie, Errol, Inchleslie, Inchture, Moncur, Drimmie, Castle Lyon and Muirtoun are indicated as having enclosed policies, although some – such as those about Glendoick and Fingask - would seem to be very limited in size. With the exception of Muirtoun, a newly created estate of feued land with a valued rent of just over £700, all are houses belonging to the largest landholders resident in the Carse of Gowrie.[8]

The improvements to houses and the purchase of fashionable furnishings to fill them, the creation of gardens and policies, were a very expensive business; particularly for those whose position already exacted high costs. A rare but necessary attendance at Court in 1686 by the Earl of Strathmore, accompanied by

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[4] *Ibid,* 130.
[5] Whyte, *Agriculture and Society,* 131.
[6] Adair, *Mappe of Straithern, Stormont & Cars of Gourie*. (Figure 2.6.)
[7] *Ibid.*
[8] PKAC, *Cess Books for the County of Perth* (1667 and 1696).

his son, brought the complaint that the visit to London: ' ... including also herein a great dale of furniture, plate, and statues, stood me about fyveteen hundreth pound sterline'.[9] This was the equivalent of £18,000 Scots and more than three and a half times the total annual rental of the Castle Lyon estate. The drawing of Castle Lyon reproduced below (artist unknown), dates from the first half of the eighteenth century.[10] The castle is depicted as it was after the building work and improvements carried out by Earl Patrick in the later decades of the seventeenth century.[11] It shows terraces, topiary, walks and pavilions and a company of people at their leisure in the walled bowling green. The scene illustrated is a far cry from the primitive facilities and the poor state of the environs described by the Earl on his entry to the castle in 1660.[12] The expense of funding substantial improvements to a country house could, as in the case of Castle Lyon, provide an impetus to a landowner to offset the cost, at least in part, by also making improvements to the estate that would facilitate long-term profitability.[13]

The permanent enclosure of policies was a practical measure of economic importance. Some shelter from inclement weather was provided and livestock prevented from wandering. The enclosed and protected environment permitted more careful and specialised management and increased the potential for trees, fruit, hay, grain or livestock to thrive. The laying out and construction of the enclosures provided work and additional income for local people, improving the local economy as a whole, on which the laird, in turn, could draw. The design, size and nature of the policies also made an important statement about the ambition, wealth and status of their creator.

The walls and fences of the new permanent enclosures were also an important symbol of the ending of the old feudal order and the new relationship that was developing between a laird and his tenants and followers. They were boundaries that not only marked where the local populace were forbidden to graze or drive their livestock, or take wood or turfs for their own use, they also represented the

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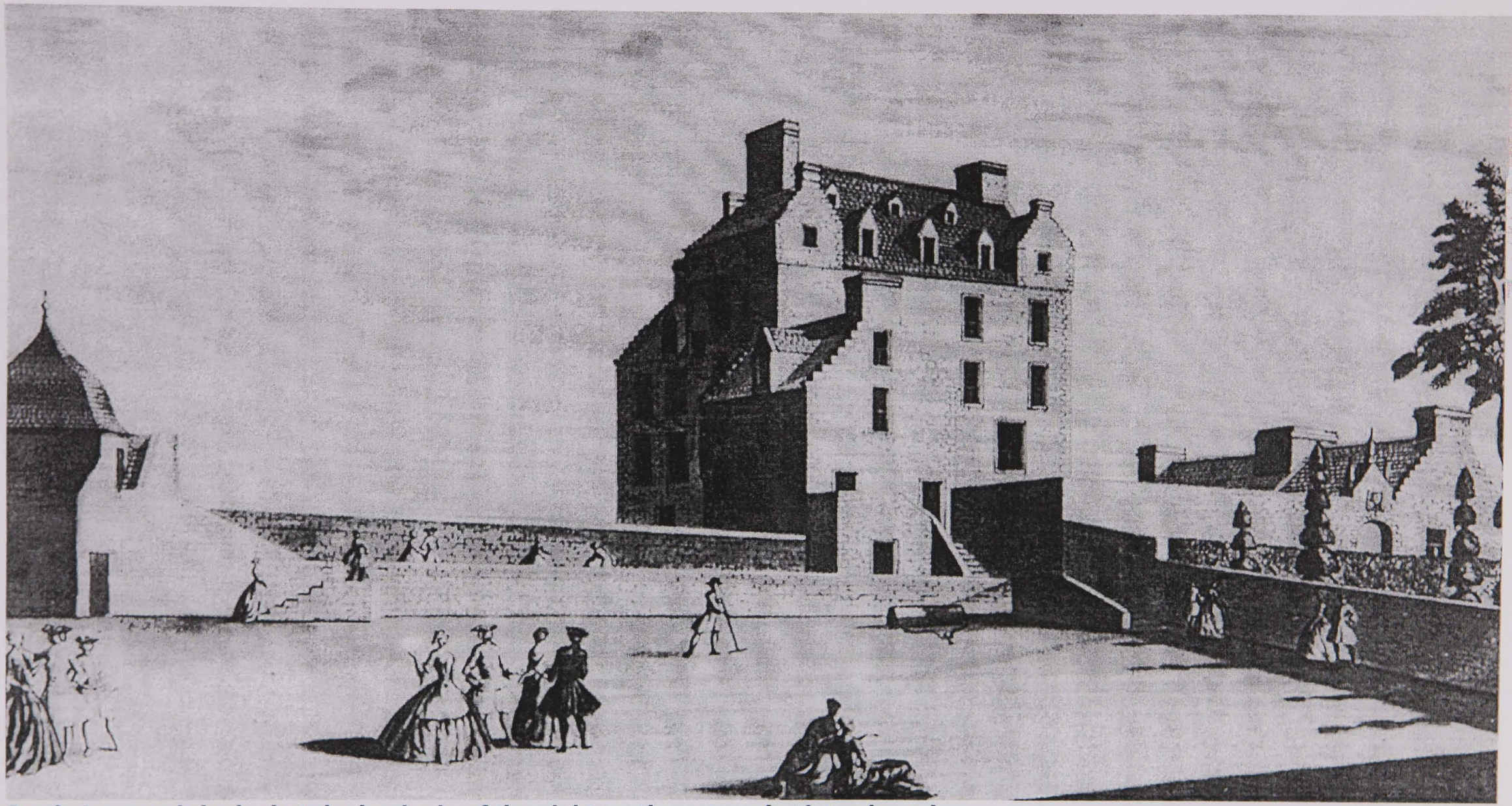
[9] Miller, *The Glamis Book of Record*, 91.
[10] Reproduced by permission of the British Museum.
[11] Details of much of the building work carried out, accounts and instructions to masons, wrights and others are contained in NRA(S) 885, 148/1.
[12] Miller, *The Glamis Book of Record*, 32-35.
[13] Whyte, *Agriculture and Society, 118.*



Castle Lyon as it looked at the beginnin of the eighteenth century (artist unkown)
©British Museum

divide that operated within the new social order. They created a mental as well as a physical barrier across the previously open access to the laird and his house by his followers that had been one of the fundamental tenets of the feudal family.

The enclosure of policies and mains farms was an extension of the changes that were being made in and about the country residences of the elite. With the ending of feuding, the stark fifteenth and sixteenth century tower houses that might afford protection from a raiding party but offered no amenity or privacy[14] had outlasted their purpose. By the second half of the seventeenth century, the brew-house, woman-house, girnals, stables, servant accommodation and other offices that had traditionally formed a convenient and protective court at the front of the main house or tower, were being consigned to the rear of new and redesigned residences. Places of work inhabited by the lower orders were put out of sight. Instead, visitors and friends were greeted by a carefully designed approach that displayed to best advantage the amenity of the grounds, the splendour of the house and the status of the owner.[15]

The level of grandeur represented the wealth derived, at least in part, from the lands in which the residence was set, but the labour and the labourers responsible for the extraction and creation of those riches were being removed from the immediate scene. Lairds were distancing themselves from their followers. A contemporary representation of this tableau is to be seen in John Adair's map of 1683[16] where the country seats of landowners, with policies and enclosures carefully indicated, dominate a largely empty countryside that includes churches but is devoid of the numerous villages and ferm touns that populated the Carse of Gowrie. Enclosures cut across the vertical strands of paternalism and marked out a new relationship that was increasingly rooted in economics and operated within a changed system of controls.

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[14] Patrick, Earl of Strathmore, complained that before the improvements he made at Castle Lyon, the only access to the upper floors was through the hall and ' ... even upon the most undecent occasions of Drudgerie [it was] unavoidable to be seen by all who should happen to be in that rowme nor was there any other to reteer [retire] to ...'. Miller, *Glamis Book of Record*, 35.

[15] C. A. McKean, 'Galleries, Girnals and the Woman House', *Review of Scottish Culture,* (Forthcoming).

[16] Figure 2.6.

Adair's map also suggests that the planting of trees around houses – an instance where the ornamental, the utilitarian and the commercial could happily combine – although ubiquitous, was not extensive. The growing wood in the Carse of Gowrie at that date was to be found, for the most part, in relatively small plantations in the immediate vicinity of the country houses. The most extensive planting is shown to have been about Inchleslie, Lord Kinnaird's estates at Inchture, and at Castle Lyon. There is no evidence of any natural or semi-natural woodland remaining. On the Pont map dated almost a century earlier, there is a suggestion of a small amount of trees on the braes behind Fingask. This loss of woodland followed a pattern familiar throughout the Lowlands of Scotland and contributed to the country as a whole being one of the least wooded in Europe.[17] The many orders and accounts for wood and timber to be found in estate papers indicate that in the later seventeenth century the large majority of that used in the Carse of Gowrie was imported from Norway.[18]

From the first half of the seventeenth century a limited amount of serious, if not extensive, planting was carried out in the district, notably on Lord Kinnaird's Inchture estates.[19] At Inchleslie, a valuation of growing timber, dated *circa*. 1692, also suggests that planting was well established there. 2,500 mature trees – ash, plane, elm and oak valued at £2 'overhead' are recorded, plus a further 1,000 willow trees 6s 8d. each.[20]

At Castle Lyon, where the level of debt made commercial enterprise and the economic development of the estate critical, the enclosing and planting of commercial woodland was begun soon after 1660.[21] The total extent of the planting is not known, but as with the rest of Earl Patrick's programme of improvement, it was ongoing. First to be planted was the Charles Wood, closely followed by the West, Middleton, East, Low and Hunger Woods, and several avenues of trees.[22] By the 1680s the earl was able to write:

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[17] T. C. Smout and F. Watson, 'Exploiting Semi-natural Woods, 1600-1800, in T. C. Smout (ed.), *Scottish Woodland History* (Edinburgh, 1997), 87.
[18] See, for instance, NRA(S), 885, 62/6 (1681) and 50/1/9 (1700).
[19] PKAC, 97/9.
[20] NAS, GD 26/5/594.
[21] See discussion below.
[22] NRA(S) 885, 190/1/25 (1693).

> And I am verie confident there is about Castle Lyon timber planted out in my time some whereof may come to be worth £6 the tree some worth twice so much but reckoning them all but at £3 the piece will aryse to a soume exceeding the worth of the heritage of ane equall yearlie rent to it. Besyds Charles-Wood which cannot be considered that way and the Ozar planting in the Middows.[23]

A commercial nursery growing seedlings and young trees was also created and developed. In the winter of 1695-6, 1,640 young trees were supplied and planted at Castle Lyon and a further 19,820 sent to Glamis to be planted there.[24] Seedlings and young trees, often in the hundreds but in the case of firs, sometimes by the thousand, were sold to a variety of estates in the surrounding districts.[25] The tree nursery, together with the orchard at Castle Lyon was managed by the head gardener and employed two full time men plus casual workers. As well as many indigenous trees, less common varieties were also grown from seed. The kinds sold and planted included ash, plane, cherry, gean [wild cherry], Scots pine, silver fir, beech, lime, elm, horse-chestnut, yew, plum, pear, apple, willow, hawthorn, holly, and hornbeam.[26] The trees listed form a mix of the aesthetic and the commercial, they reflect the growing demand for both and the exploitation by the Earl of Strathmore (and, subsequently, his widow) of a relatively new and expanding market.

The planting of trees could not offer a quick return on money, but was a long-term investment. The heavy clay that is to be found across much of the Carse of Gowrie is not a good medium for the fast growing firs that were the basis for most commercial woodland. Many owners of good quality arable land in the Carse of Gowrie may not have considered timber to be an economic alternative. Trees also required a considerable level of protection, not only in their early years from the likes of rabbits, deer and grazing livestock, but also from the local populace. On estates without firm management it may not have been possible to successfully establish woods where this went against the will of the tenantry. To make way for a substantial scheme of planting, entire holdings might need to be removed. The

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[23] Miller *Glamis Book of Record,* 32.
[24] NRA(S) 885, 190/1/26.
[25] NRA(S) 885, 52/1/1 (1703-4).
[26] NRA 885, 52/1/1-7 (1698-1705).

margins that tenants of smallholdings could gain from their land were limited.[27] The loss of even a relatively small area of arable ground or the pasturage on a muir for a cow, could have resulted in a critical loss of income. Earl Patrick complained of the

> general humor in commons [people] who have a naturall aversione to all maner of planting and when young timber is sett be sure they doe not faill in the night time to cut even att the prettiest and straightest trees for stav's or plough goads, and many [a] on[e] they have destroyd to myself albeit if they stood not in great awe and fear they would have yet done greater harme to my young plantines. I have sometimes discovered by brib[e]s fellows who have cutt off my trees whom I have punished so severly that it greatly terrified others who perhaps would have done the like but for fear of punishment.[28]

It is difficult not to have sympathy for a young goadman in need of a long stave with which to ply his trade controlling teams of oxen, living beside a plantation of young trees and yet in terror of the consequences of cutting one. The growing of trees to maturity was a long-term and 'greater' good, however, and tenants were encouraged to plant them, particularly on waste areas.[29] On the low-lying ground of the Carse, osiers in particular were to be grown along water courses and drainage ditches – a clause to this effect is to be found in leases dating back as far as the fifteenth century.[30]

In the eighteenth century some substantial commercial planting was to be carried out on the braes and hills of the Carse of Gowrie and on one or two of the poorer and drier areas of the low ground.[31] In the second half of the seventeenth century, however, enclosures for tree planting were on a relatively small scale and for the most part to be found within the policies of the country houses where amenity and

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[27] See Chapter 3.6, above.
[28] Miller, *Glamis Book of Record,* 41.
[29] NAS, GD316/2 (1688).
[30] ' ...and he shall lay out the said land to advantage in buildings and planting of trees, ashes osiers and sauchs, gaining the land as far as possible from submersion in water.' Rogers, *Rental Book of the Cistercian Abbey of Cupar-Angus,* Vol. I, 161:194 (1472).
[31] Donaldson, *General View of the Agriculture of the Carse of Gowrie*, 3.

shelter were their first purpose. The remarkable exception was Castle Lyon and to a lesser extent the estates of Lord Kinnaird and Inchleslie.

Where orchards were concerned, however, permanent enclosures for commercial crops were by no means new to the Carse of Gowrie in the seventeenth century. The earliest on record for the district, so far found, were those constructed for the protection of the orchards of the Cistercian Abbey of Coupar Angus at Carse Grange in the parish of Errol. The terms of the creation, planting and upkeep of orchards were recorded in the leases granted in respect of holdings on Carse Grange in the fifteenth century.[32] At the time of the Reformation, the rental income from the Carse Grange orchards was listed as £97 6s 8d.[33]

As revealed in Chapters 3.3 and 3.5, above, Carse Grange played an early and important part in the development of agriculture in the Carse of Gowrie, not only in terms of crops grown and farming practices, but also with regard to the creation of a skilled and commercial tenantry. A significant proportion of the tenants were able to purchase the feus of their holdings in the wake of the Reformation and many of their descendants continued to farm in the area, well into the seventeenth and eighteenth centuries. It is argued that an important aspect of Carse Grange was that, unlike the manner of most lay estates of its time, it was not in essence feudal. The grange existed for the commercial production of crops; the relationship the Abbey maintained with its tenants was also, to a significant extent, a commercial one.

Timothy Pont's map from the late sixteenth century indicates the presence of orchards at Megginch, Inchmartine (Inchleslie), Kinnaird, Inchture, Moncur, Monorgan, Aithmuir and Seaside.[34] By the middle of the seventeenth century there are records of orchards on a good number of farms and estates in the district and it is apparent that orchard fruit was a very important commercial crop. The orchard at the Mott of Errol produced pears, apples and plums and had a rental value in excess of £300 per annum.[35] If the average price of a boll of grain in this period is taken to be in the region of £5 this particular orchard was worth appreciably more

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[32] Rogers, *Rental Book of the Cistercian Abbey of Cupar-Angus,* Vol. I, 188:232 and 255:429.
[33] *Ibid,* Vol. I, 361.
[34] NLS, *Pont 26,* (Appendix 2.2)
[35] PKAC, MS100/963 (1634) and NAS, GD316/8 (1661).

in rent than a ploughgate of the best arable land.[36] In 1688, the annual rent for the orchard of Seaside was put at 400 merks (£264).[37] The fruit trees in the orchards at Inchleslie, on the other hand, were described in 1692 as being very old and producing no more than between ten and sixteen bolls of fruit a year, although there too, plums and pears were grown as well as apples.[38]

The late frosts to which the Carse of Gowrie can be prone, meant that fruit was not always produced in abundance and rather than a set rent being levied, it was the custom for fruit crops to be apprised each year. This was normally carried out by four independent or 'skilled' men - two appointed by the landlord and two by the tenant.[39] The rent of the orchard at Gourdiehill was, in 1692, apprised at thirteen bolls and one firlot of fruit at 11 merks per boll (£97 3s 4d). In 1693 no fruit at all was apprised for rent and in 1694 it was set at only two firlots, but worth £11 per boll (£5 10s).[40] (1692 was not an especially good crop but the very poor returns of fruit in 1693 and 1694 support the evidence from the Castle Lyon crop yields that there was already a serious deterioration in climate in these years, prior to the onset of the famine in 1695.[41])

The tacks for holdings that included an orchard normally included strict and detailed terms in respect of their upkeep and maintenance. On being let Seaside, George Duncan was held by the terms of the lease not to cut any trees except of his own planting, if he did cut one he was obliged to plant three; any decaying trees were to be removed and any waste places planted with fruit and barren trees.[42] The tree nursery that accompanied the orchard was to be upheld and furnished with new planting whensoever any were taken out, and to be left in good condition at his removal.[43]

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[36] As noted elsewhere in this thesis the ferme for a ploughgate of decent Carse of Gowrie land at this time was approximately 40 bolls of grain per annum, the most fertile land was levied at higher rates.
[37] NAS, GD316/10.
[38] NAS, GD 26/5/594.
[39] NAS, GD316/10.
[40] NAS, GD316/10
[41] See Chapter 4.4, above.
[42] Barren trees: a term used for indigenous trees other than fruit trees.
[43] NAS, GD316/2 (1688).

The long history and commercial nature of orchards in the Carse of Gowrie made the concept of enclosures for commercial use well established among tenants and small feuars by the middle of the seventeenth century. The extension of this principal by a large number of landowners to their farms was, however, still comparatively rare. The motive of many proprietors when embarking on these first steps towards agricultural improvement was not one of commercial enterprise or economic development.

There is, however, one significant instance where Adair's map indicates that the enclosure of fields on an extensive scale had been carried out encompassing land well beyond the environs of a residence. These enclosures stretch in a broad band from the western edge of George, Baron Kinnaird's estate of Inchture where it bounded the Inchleslie (Inchmartine) estate of Francis Montgomerie, to the eastern end of Longforgan village; a distance of approximately three miles. The ground that is depicted as being enclosed accords, more or less, with the best land on the adjoining estates of Inchture, Drimmie and Moncur (all owned by Baron Kinnaird) and the Castle Lyon estate of Patrick, first Earl of Strathmore. On Thomas Mylne's estate of Muirton, which neighboured Castle Lyon to the east, only the immediate policies are shown to be enclosed at the time of the survey, but evidence in estate muniments reveals that by the end of the decade extensive improvement and enclosure was also being undertaken there.[44]

An examination of contemporary records and other available evidence throws some light on the particular circumstances of these estates that promoted the creation of such extensive enclosures at a date substantially earlier than was apparent elsewhere in the district. In so doing, it also reflects on the nature of the wider changes that were occurring in Scottish society and economy at this time.

Features common to these estates that would have encouraged their relatively early development was the quality of their land, their proximity to Dundee, the service of the small ports of Powgavie and Kingoodie and the presence of a local market centre at Longforgan. However, many other estates in the Carse of Gowrie had equal advantages. A lot of land was as good and some - at Inchmartine and Errol - was better. No area in the district could be described as remote. The western

parishes were well served by the Port of Errol. Perth was easily within a day's walk and the local market at Errol was twice the size of that of Longforgan.[45] Although the estates situated on the Braes of the Carse would be at a comparative disadvantage, Inchture, Moncur, Drimmie, Castle Lyon and Muirton were not unduly favoured in respect of their location when compared to the rest of the district.

For enclosures to be built by a proprietor on any extensive scale, one condition above all had to be in place. This was that the land to be enclosed be free of wadset and not subject to proprietary runrig. This condition was by no means universal in the Carse of Gowrie. A landowner could not touch land held under wadset unless and until the wadset was redeemed. In the middle years of the seventeenth century when a large number of the aristocracy were heavily burdened by debt, large tracts of land and even whole estates, such as the Earl of Newburgh's Kinnaird estate prior to its purchase by Sir Patrick Threipland in 1674, was mortgaged in this way.[46]

The intermixture of land belonging to different proprietors was also relatively common across Scotland in the seventeenth century[47]. The origins of this proprietary runrig sometimes lay in a system of feuing employed in the sixteenth century, where feuars were granted shares in an area of land rather than a fixed acreage. It also arose from attempts to divide land equally between heirs.[48] For example, on an estate where there may have been two daughters to inherit, rather than leave the northern half of the estate to one and the southern half to the other, which in terms of land quality may have unduly favoured one above the other, each would be bequeathed alternate rigs across the whole estate, ensuring as far as possible an even division.[49] Through subsequent generations, marriage, and the sale or feuing of portions of land, it was possible for very complex patterns of ownership to arise. The seriousness and scale of the problem was recognised by an Act of Parliament of 1695, 'Anent Lands Lying Run-rig'. Proprietary runrig was

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[44] NRA(S) 885, Papers of the Earl of Strathmore, 198/2/3.
[45] Marwick, *List of Markets and Fairs,* 608 and 642.
[46] PKAC *Cess Books* (Kinnaird).
[47] Whyte, *Agriculture and Society,* 146-9.
[48] *Ibid.*, 146-7.
[49] The origins of the manner in which land was divided into runrig is explored in an article by R. A. Dodgshon, 'The Scottish Farming Township as Metaphor', in Leneman, L., (ed.),

considered 'highly prejudical to the ... improvement of the nation by planting and enclosing'.[50] The act attempted to alleviate the situation by allowing only one of the proprietors involved, if he or she so wished, to force through a division of the land, rather than require the consent of all. If all were in agreement a division could be made without resort to legal process.[51] The absence, or removal, of proprietary runrig was a prerequisite to the achievement of large consolidated holdings and the investment in and creation of enclosures.

The evidence of charters and deeds recorded in the *Register of the Great Seal* suggest that a significant proportion of estates were divided in proprietary runrig in the Carse of Gowrie. Published volumes of the *Register* do not go beyond 1668, but in the 1660s at least a substantial proportion of land was still held on the basis of portions. One example is that of James Gray of Balledgarno who in 1664 held:

> ... half of the lands and barony of Balledgarno, one third of the lands of Abernyte with mills and fulling mills; ... one third part of half the foresaid land of Abernyte except half of the town and lands of Balloleys, ... half the lands of Drimmie.[52]

A well documented case of proprietary runrig was created as late as 1655 when Sir Alexander Blair, the owner of Inchyra, sold to William Blair 'the just and equal sunie half of all and haill the town and lands of Inchriff'.[53] The other half was sold to Andrew Blair with '... a kavel belonging to one party always alternating with a kavel belonging to the other party, after the fashion of runrig or rundale.'[54] The land involved in the transactions extended to possibly 200 hectares and was divided into approximately 100 'kavels'.[55]

Perspectives in Scottish Social History, essays in honour of Rosalind Mitchison. (Aberdeen, 1988).

[50] *Acts of the Parliament of Scotland, IX,* 1695, p.421.

[51] Whyte, *Agriculture and Society,* 108.

[52] J. Horne-Stevenson, (ed.), *Register of the Great Seal of Scotland, AD 1660-1668* (Edinburgh, 1914), 314.

[53] Baroness Gray v. Richardson and others, pp. 1031-78 in *Session Cases*, 4th series, iii (1875). Quoted in Dodgshon, *Land and Society in Early Scotland*, 221; also in A. N. L. Hodd, 'Runrig on the Eve of the Agricultural Revolution in Scotland', *Scottish Geographical Magazine* XC (1974), 130-3.

[54] Gray v. Richardson, 1048. Kavel: a small parcel of land. (At Inchyra these measured as much as two hectares.

[55] PKAC, 97/1.

The proprietary runrig at Inchyra was ended by a 1795 court case, where it was stated:

> ... and that there are several pieces of the said lands of Cairny which do ly in among the said Prior lands and Powlands, at a pretty considerable distance from the common march, as, on the other hand there are several pieces of the said Priorlands and Powlands of Inchyra which do ly in amongst the said lands of Cairny, ... which both parties find to be inconvenient for them, and a hindrance to their inclosing and improving their ground, and the occasion of debates and quarrels among their tenants.[56]

The fishing rights on the Tay that were attached to the ownership of the kavels were the subject of the Session Case of 1875-6 from which the above extracts are drawn. The long and complex saga is a sample of the depth and complexity of the problems that the system could generate.

There is evidence that a substantial amount or proprietary runrig was successfully removed from estates in the Carse of Gowrie during the seventeenth century and well before the Act of 1695. At Castle Lyon, proprietary runrig was removed from that estate in the early years of the seventeenth century when two of the three portions into which it was divided, were secured from the Gray family of Fowlis.[57] A number of outlying areas of the estate, were feued and Patrick Moreis had the wadset of the Rawes farm, but the central core of the estate was held unencumbered by the Earl and Countess of Strathmore.[58] This was an important factor in Earl Patrick's decision to commence improvements at Longforgan well before he began at Glamis, his principal residence, but where even the mains farm was wadset.[59]

At Inchture, many of the acquisitions of land made by the Kinnairds, particularly in the first half of the century, were important in establishing a large area of ground at

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[56] Gray v. Richardson, C546/36/8/1876, 7.
[57] NRA(S) 885, 31/4/29.
[58] NRA(S) 885, 53/2/.
[59] Miller, *The Glamis Book of Record*, 16.

the heart of their estates that was free of proprietary runrig. A substantial amount of land was acquired by means of prudent marriage and the redeeming of wadsets; this included substantial portions at Rossie and Baledgarno, formerly in the hands of the Gray family, as well as the whole estate of Moncur previously held by Moncur of that Ilk.[60] The Kinnairds also purchased the nearby Inchmichael estate in the Barony of Errol in 1638 when Gilbert, Earl of Erroll, sold that Barony to a consortium of local landowners.[61] During the minority of Patrick, Earl of Kinghorn, lands attached to Castle Lyon but lying in Inchture parish were also purchased.[62] Outlying areas of Drimmie and Baledgarno, however, remained divided well into the second half of the century. At Muirton, the Mylnes were able to feu contiguous lands, some of which they had themselves previously held in wadset.

The absence of proprietary runrig and wadset on Castle Lyon, Muirton and the Inchture estates of the Kinnairds was a crucial factor in allowing, at an early date, the creation of extensive enclosures upon them. In other respects, however, there were significant differences in the circumstances and backgrounds of the estates and of the three improving landowners. These differences reflected some important aspects of the Scottish economy and developments in Scottish society during this period.

The discussion in Chapter 4.4 with regard to the grain yields achieved on the mains farm of the Castle Lyon estate between 1672 and 1696 included some consideration of the background and motivation behind the creation of enclosures there. Briefly, these were begun in 1660 when Patrick, Earl of Kinghorn (later first Earl of Strathmore) came into his inheritance and took up residence in the castle. At the time of his father's death in 1643, when Patrick was aged four, the debts on the estates ran to 600,000 merks. This figure increased substantially in the time of Patrick's minority, in part through the considerable jointure 'carried away' by his mother's re-marriage to the Earl of Linlithgow.[63] The Lyon estates were generally considered irrecoverable.[64] If the fortunes of the family were to be restored, change and improvement was imperative.

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[60] PKAC, MS100/215, (1634-35).
[61] PKAC, MS100/963.
[62] Miller, *Glamis Book of Record,* 36.
[63] NRA 885, Papers of the Earl of Strathmore, 22/1/1.
[64] Millar, (ed.), *Glamis Book of Record,* 19.

Limited records from the seventeenth century pertaining to the Inchture estates of the Barons of Kinnaird survive, but there are no factory accounts or rentals from the period from which detailed information on the internal structure, or the development, of these estates can be taken.[65] However, from the miscellaneous papers that are extant, family histories and references in other collections, some knowledge of the circumstances and management of the estates during this period can be gained.

The Kinnairds were an important and long-established family of landowners in the Carse of Gowrie; William the Lyon granted their first charter of land in the district in 1170.[66] By 1650 a very substantial landholding had been established whose total valued rent was recorded as £5,883; by 1667 this had further increased to £6,191 and stood at £6,343 in 1696.[67] From the 1660s, George Kinnaird was owner of the largest and most valuable landholding in the Carse of Gowrie.

The Kinnairds were influential politically; George represented Perthshire in Parliament during the Interregnum and was consulted by Monck prior to that General's march to London in 1659 and the subsequent Restoration of Charles II.[68] George Kinnaird was knighted and made a privy councillor in 1661 and later made Baron of Inchture.[69] The Kinnairds maintained strong merchant and banking interests and although they were supporters of the Royalist cause, the family appear to have avoided the crippling financial losses suffered by many such at this time.[70]

The Kinnairds were not in the first rank of the Scottish aristocracy or as landowners, but they had money, enjoyed influence at home and conducted business abroad. They were in the forefront of the class of independent lairds who, from the reign of James VI and I, played an important role in Scotland's government and affairs. They were able and ambitious and increased their fortunes as the power and wealth of a number of the old aristocracy retracted.

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[65] PKAC MS100.
[66] PKAC MS100/1.
[67] Gloag, *The Rental Book of Perthshyre,*, 8; also, PKAC, CC1 *Cess Books* (Inchture parish).
[68] McLeuchlin, *The Barons of Kinnaird* , 19.
[69] *Ibid.*, 20.

The creation of enclosures on the Kinnaird lands was among the earliest in the Carse of Gowrie. The Adair map shows that by 1683 these extended well beyond the proximity of the main residences. An early nineteenth century genealogical history of the family of Hunter of Glencarse, states that their ancestor, Robert Hunter, was brought from England by the Kinnairds to be 'Land Steward' and agent at Inchture for the express purpose of improving the estate. It was recorded that in 1647 Robert Hunter was living in the Old Tower of Inchture, situated 'in the Orchard' and that it was he who planned out all the enclosures about Drimmie as well as the avenues there and to Inchture and Balledgarno.[71] The employment of an agent by George Kinnaird to oversee the work was in contrast to the situation at Castle Lyon where Earl Patrick made much of the fact that he himself was responsible for planning and seeing through the improvements there.[72]

Additional evidence that extensive changes were being implemented on the Kinnaird estates at that time comes in the form of a Precept of Removing made against the tenants of Inchture in 1648.[73] No written leases are extant from the seventeenth century pertaining to the Inchture estates of the Kinnairds, but the legal process indicates that leases were in place and tenancies were not at the will of the laird. If the policies and parks being created took in tenanted land, leases needed to be re-negotiated. If the farms were not consolidated units but made up of scattered strips - as was often the case, particularly in the first half of the seventeenth century – a large number of tenants were likely to have had their holdings caught up in the improvements.

The ending of existing tenancies was an essential precursor to the enclosing or restructuring of an estate as it presented to the proprietor a clear field on which to impose his or her improvements. It was common practice on the sale of an estate in this period for the lands to be 'purged and freed' of mortgages and sitting tenants, although where long leases were in place this was not always possible.[74]

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[70] PKAC, MS100/1109, (1677).
[71] PKAC, 97/9.
[72] Millar, *Glamis Book of Record,* passim and NRA(S) 885, 190/1/22, factory accounts .
[73] PKAC, MS100/253.
[74] See, for instance NAS, GD25/5/19. Following the sale of the Inchmartine estate by Lord Deskford to the Earl of Leven in 1650, a number lease-holding tenants successfully resisted attempts to remove them.

The freeing of the land allowed the incoming proprietor to bring in his or her own people or to retain only those who had shown themselves to be good farmers and tenants. The commitment to the principle of improvement in the Carse of Gowrie in the first half of the seventeenth century is acknowledged by a clause in a 1637 document associated with the sale of the Barony of Errol:

> Item the Earle of Kynoull and his cau[tion]ers ar oblist to pay to the Erle of Erroll 38732 merks 7s 6d for the augmentit rental whensoever the Lands shall be fre[e]d of the wadsets ta[c]ks and rentals and when ther ar none of these efter the tennents shall be derernd [deraigned] to remove whereby Kynoull may Improve the Lands to that rentall.'[75]

The origin of the Mylne family of Muirtoun was not to be found among either the aristocracy or the gentry, but among the middling sort. Their background has already been noted in Chapter 3.3, above. The name given to their newly created estate symbolises the change in status being made. 'Muirtoun', the name of the original lands, describes the situation of a ferm toun on rough and uncultivated land. 'Mylnfield', in contrast, combines the name of the creator of the new estate with 'field' a word that signifies enclosed, cultivated and productive land.

Thomas Mylne had a great deal of ability, was forward looking, commercial minded and enjoyed the respect of his more illustrious neighbours. In 1693 he was able to prevail, as a friend, on the Countess of Strathmore to sell a piece of her Castle Lyon jointure lands in order to facilitate the improvements and enclosures he was carrying out on Mylnfield.[76] After 1700 he was appointed factor to the Glamis estates and also acted for Lord Kinnaird.[77]

For the Kinnairds and the Mylnes the middle decades of the seventeenth century proved to be more prosperous than for many of their landowning contemporaries. Their business interests allied to their estates and farms gave them the capital to expand. They had the wherewithal to take advantage of the deep indebtedness in which many of the large estates found themselves - ready cash with which to redeem wadsets, purchase feus and also to make loans in return for bonds secured

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[75] NRA(S) 885, 28/10/6.
[76] NRA(S) 885, 198/2/3.

in land. They acquired land and consolidated their estates. Their business acumen and ambition led them to create enclosures that would at once beautify their residences, increase the productivity of their lands and display to the world their growing status. Unlike the Earl of Strathmore, they were able to embark on their programmes of improvement and enclosure from positions of apparent financial strength, unencumbered by years of accumulated debt and with incomes that did not rely solely on the profitability of their estates. Like the Earl of Strathmore, but unlike a majority of Carse of Gowrie landowners, a considerable proportion of their investment would seem to have been focused, from the start, on the improvement of their estates along with that of their houses.

In terms of background, wealth and social class there was a large gulf between the Kinnairds and the Mylnes, but both were representative of the new order that was establishing itself in seventeenth century Scotland. A number of other examples from the Carse of Gowrie have been mentioned elsewhere in this thesis, including, among the lesser gentry, Peter Hay of Leyes in the parish of Errol, who increased and consolidated his estate from a valued rent in 1650 of £322 to £1,071 in 1696.[78] From the merchant class, the wealthy provost of Perth, Patrick Threapland (knighted in 1674) purchased the estate of Fingask in 1672 from the Bruce family.[79] Two years later he acquired from the heavily indebted Earl of Newburgh the adjacent estate of Kinnaird.[80] The total valued rent of the two estates amounted to a very substantial £3,655.[81] The merchant Robert Strachan feued the small estate of Dron (valued rent £240) in Longforgan parish from the Earl of Strathmore and had a new and impressive two-storey stone house built there in 1689 by Andrew Wright, the Earl's principal builder.[82]

In comparative terms, Strachan's investment was on a very small scale, but it serves to illustrate the range of those who were acquiring land at this time (particularly with money derived from trade rather than agriculture) and investing in their houses.

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[77] NRA(S) 885, 53/2/8. PKAC, MS100/1087 (1712).
[78] PKAC *Cess Book*, Errol.
[79] Chambers, *The Threiplands of Fingask*, 7.
[80] PKAC, MS169/14/2/8.
[81] PKAC *Cess Book*, Kilspindie and Kinnaird.

In the light of the prevailing economic climate and the particular circumstances at Castle Lyon, the manner in which Patrick, Earl of Strathmore found it possible to fund the large scale capital improvements undertaken there, must be addressed. The generally low market price of grain depressed the estate's actual and potential income. Money that might otherwise have been available for investment in the work was needed to service the heavy burden of debt carried by the family lands. A significant number of substantial building projects and improvements were carried out across Lowland Scotland in the second half of the seventeenth century even though, as noted here and in previous chapters, many landed estates were in severe and long standing financial difficulties. As the maps of Adair show, policies were being created and enclosed and woods planted on an unprecedented scale.[83]

It has been shown that the building of walled enclosures was fundamental to the improvement of Castle Lyon - in the first instance for the protection of pasture in order that hay could be grown, enabling a far greater number of livestock to be kept. The additional horses and oxen, in their turn, provided the motive power for transporting stone for the building work and also the manure vital to the improvement of the land and the overall productivity of the estate. At the heart of the enterprise was the improvement and beautification of the immediate environment of the castle and its grounds through work on the building itself as well as its offices, together with the creation and protection of gardens, orchards, policies and woodland. The enclosure of the farmland was integral to the wider scheme but not of itself the central purpose.

A factor critical to the success of the Castle Lyon programme of improvements was that these were, from the outset, part of a long-term and on-going process:

> Therefore necessarie it is for a man to desyne all at once (chalk is no sheers, and the desyning hereof does not impose any necessity upon the projector but that he may verie well prosecut his designe by pecemale as he can, and by doeing something everie day according to the saying of the great Mathematician *Nulla dies sine linea* and w^{ch} is applicable lykewayes to men's business) it will aryse to something in the years time and by the space of divers yeares to some thing more

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[82] NRA(S) 885, 30/3/6.
[83] Whyte, *Agriculture and Society,* 113-136.

> considerable, yet a man by this way prosecuting his designs, w^ch^ certainly is the best and easiest, needs extremely to be tempered with patience.[84]

Earl Patrick carried on the cycle of building and improvement until the end of his life in 1696, a period of thirty-six years. Throughout this time he monitored his finances closely and his judicious management systematically reduced the debts that encumbered his estates.[85] By 1694 he was able to write that in addition to all the work done on his houses of Glamis and Castle Lyon and the money spent on their plenishing, more than half the debt he inherited had been paid off.[86] The policy of Earl Patrick was to advance building work and improvements as and when income and resources allowed rather than grant bonds for the specific purpose of funding the work, something that would have further increased the burden of debt.

The actual outlay required for constructing enclosures was kept to a minimum and the estate was able to absorb a very large proportion of the cost by making payments in kind wherever possible. By the 1690s, the commercial tree nursery established at Castle Lyon was producing hawthorns for hedging, but the large majority of permanent enclosures on the estate were walled. The amount of outlay on materials for wall building, in terms of hard cash, was not however, onerous. Even though there was no suitable quarry on the Castle Lyon estate and the stone had to be purchased from Muirtoun, the quarrier's accounts show that the cost of wall-stone was not especially high. In 1680 the price of a cartload of wall-stone was 0s 8d; the accounts from 1688 and 1690 give the average price of a loaded wain of wall-stone as 1s 2½d and a cartload as 9½d.[87] The quarrier's account for wall-stone in 1688 totalled £144 15s and in 1690, £149 16s 8d. At the prevailing Perth Fiars prices, this was the equivalent of 36 bolls of oatmeal in 1688 but only 22 bolls in 1690.

The stone was transported by the earl's own servants using carts, wains, horses and oxen belonging to the estate. It has been shown previously that the contribution to

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[84] Millar, *Glamis Book of Record*, 40.
[85] An insight into the manner in which Earl Patrick managed his financial affairs can be gained from Millar, *Glamis Book of Record*, passim.
[86] NRA(S) 885, 22/1/1.
[87] NRA(S) 885, 190/1/15, (1680-1) and 190/1/22, (1688-90).

the fertility and productivity of the soil made by the manure of the large numbers of horses and oxen that were required for pulling the stone carts, far outweighed the cost of their keep. The walls of the policies and enclosures at Castle Lyon tended to be built without mortar.[88] Where mortar was used it was clay-based rather than lime.[89] Clay was the predominant soil to be found on the estate and so could be obtained on site without the outlay of money. Lime, on the other hand, was an expensive commodity that had to be purchased and shipped from the Forth to the shore of the Dundee at a cost in the region of £9 per chalder (11s 3d per boll), before being transported by the Earl's own servants to Longforgan.[90]

By far the greatest cost to be incurred was the labour of the workmen. However, the largest part of this could also be found in kind rather than money. Workers who were employed on a permanent basis at Castle Lyon in the second half of the seventeenth century received more than half their wages in the form of 'livery meal'. Each received six bolls and two firlots of meal, or its equivalent in bear or oats, per annum. The value of this varied according to the fluctuations of the market but in the 1680s, at Perth Fiars prices, the average worth would have been equal to £27 0s 9½d. per year. The fees paid to adult estate workers varied according to the nature of the job and ranged from circa. £14 for a goadman to £24 for a ploughman. Wainmen and carters were paid an annual fee of £18 18s 0d.[91] (i.e., just over 40% of their total pay when based on the victual prices of the 1680s). But a substantial proportion of this fee, if not all, was also likely to be paid in kind.[92] Robert Miller, for instance, one of six full-time wainmen employed on Castle Lyon in 1692, had £13 14s 0d. of his fee paid in victual with the remainder met by a precept drawn on Robert Hill, the tenant of Lauriston in the Knap. Alex Jack, a young goadman, had all his fee paid in victual.[93]

The masons who built the walls were not employed on a full time basis, but were paid according to the area of wall erected. An account for twenty-four roods

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[88] NRA(S) 885, 190/1/15, (1680).
[89] Conversation with Professor Charles McKean.
[90] NRA(S) 885, 58/6, (1675-1677)
[91] NRA(S) 885, 190/1/23 (1692).
[92] The fee of Andrew Finn, ploughman in 1698 was paid by one stone of wool, bear and pease. The fee of James Anderson, goadman, was met by precepts on tenants allowed against their rent.
[93] NRA(S) 885, 190/1/23 (1692).

(approximately 765 square metres) of dry-stone walling (288 ells in length by three ells high) built round the 'low garden', gave the cost as £6 13s 4d per rood; a total of £160.[94] The custom of the time was that those employed on a daily or weekly basis were given an allowance of food for their subsistence on top of their fee, this however was not a practice normally followed by Earl Patrick 'for in some cases, if they know off no imploy[t] elsewhere they prolong the work for the benefit of having ther meat bound to their mouth ...'.[95] The earl did, however, concede that in the case of craftsmen or a 'headsman' it was expedient and 'a necessity of being liberall that way'.[96]

The principal builders employed at Castle Lyon and Glamis in the later seventeenth century were Andrew Wright and Alexander Craw. In lieu of money payments to Andrew Wright, Earl Patrick feued him the small farm of Byreflatt at Longforgan on the Castle Lyon estate, valued at 2,500 merks (£1,650).[97] As well as being a stone mason, Alexander Craw was also the tenant of a substantial holding on Castle Lyon and it was not unusual for a substantial proportion of his rent to be off-set by building work and services.[98]

The building work in general and the enclosures in particular were an integral part of the increased productivity on the Mains of Castle Lyon, both in terms of crop yields, the number of livestock kept, the establishment of a tree nursery and the planting of extensive woodland. The income generated by these improvements more than met their cost. The large proportion of payments that were met in kind, particularly in terms of home-grown victual, allowed much of the expense to be absorbed. This preferred means of payment was an extremely important aspect of the way in which the economy of the estate operated. Coin, at this time, was scarce across Scotland as a whole; a great deal was required by Earl Patrick to meet interest payments on debts. Any payments that could be made in home produced victual lessened to some degree the pressure to generate specie that the Strathmore lands were constantly under. In times of low prices and limited demand

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[94] NRA(S) 885, 190/1/15, (1680). One ell is approximate to thirty-seven inches or ninety-four centimetres, the amount of walling therefore measured 271 metres in length by 2.82 metres in height

[95] Miller, *Glamis Book of Record,* 93.

[96] *Ibid.*

[97] *Ibid.,* 97.

[98] NRA(S) 885, 54/1/8, (1698).

for grain it also meant that markets did not have to be found for at least a proportion of the victual that was produced on Castle Lyon.

The experience at Castle Lyon shows that within the economy of the time, even where there were severe financial restrictions, a sizeable and well-managed arable estate had the resources to fund the creation of policies and the enclosure of the mains farm. The enclosing of tenanted land on a large scale, however, was unlikely to have been an economic proposition. The size of the rent increases that would have been required to fund these needed the under-pinning of substantially higher grain prices than were to be had in the second half of the seventeenth century.

The movement towards enclosure shows the process of improvement to be erratic and fragmented in the Carse of Gowrie. The long-established commercial orchards represented a high latent level of development and enterprise within the agricultural economy of the district. The level of the integrated improvement of their estates by the Earl of Strathmore, Baron Kinnaird and Thomas Mylne demonstrates the early presence of commercial ambition being applied to agricultural development. The creation of extensive enclosures on their lands marked these men out from many Carse of Gowrie proprietors at this time, although a number of other landowners may also have been engaged in similar improvements. The rentals of Inchleslie and Kinnaird suggest that those estates underwent substantial changes in the later decades of the seventeenth century.[99] Another possibility is the estate of the Hays of Megginch – however, insufficient records are in the public domain for this to be properly ascertained.

A substantial number of proprietors did not engage in extensive programmes of enclosure, for reasons financial, obstacles such as proprietary runrig, non-residency and therefore low priority, or indeed a lack of vision, drive and ambition. The extent to which the focus of improvements did not extend beyond the immediate environs of houses, suggests that the economic and commercial dimensions of modernisation had still to be taken on board by many within the landowning classes.

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[99] See Chapter 3.5, above.

4.6 Trades and Manufactures

The expansion of rural manufacture in the second half of the seventeenth century was an important step in Scotland's passage from an agrarian to an industrial economy. This chapter will examine the nature and extent of the trades and manufactures carried on in the Carse of Gowrie *c.* 1660-1707. It will comprise a study of the occupations that served the local population and explore the circumstances that enabled a remarkable growth in linen production. It will show that pre-requisites for successful, commercial manufacture – workers with the time, energy and the resources for such employment, the availability of raw materials and an accessible market – were present, and how the quantity and combination of these factors determined the nature and extent of the trades and manufactures carried on.

A high level of self-sufficiency was an inherent attribute of subsistence and pre-industrial rural economies.[1] The scarcity of money, the limited amount of surplus produce with which to trade and, in many areas, the distance from markets, made the ability to fashion the basic essentials of day-to-day living a necessary part of rural life. In addition, the wide-ranging practical skills required in farming meant that those working in agriculture had a basic knowledge of and facility in a variety of crafts. The restraint and control of animals and the maintenance of farm equipment afforded much practice in working with wood, rope and leather, as well as in the arts of fencing and building. Raw materials for traditional crafts were near to hand. Lanterns, for instance, are likely to have been repaired and tools and vessels fashioned, from horns saved after the death of a cow or ox. Their hides would be cured and worked into leather. In the Carse of Gowrie, the growing of flax (discussed in more detail, below) was all but ubiquitous. Cottars, small tenants and their families had the resources and the capabilities to undertake basic

[1] Sanderson, *Scottish Rural Society*, 128, 193.

manufacturing when their labour was not required either on the land or in carrying out feudal service for the laird.[2]

I. D. Whyte has written that the related patterns of agriculture and the rural social structure to be found in the arable regions of the eastern Lowlands of Scotland, created the conditions where a significant element of the population were made dependent, in part, on rural industry.[3] The traditional model outlined by F. F. Mendels, described proto-industrialisation as being linked to marginal, upland areas and subsistence farming; it envisaged rural industrial workers as acquiring smallholdings through sub-division due to partible inheritance, or squatting on the waste.[4] In Scotland, however, Whyte has shown that proto-industrialisation was to be found in the more prosperous cereal growing areas where holdings tended to be large.[5] Farm size and the nature of agriculture in the Carse of Gowrie exemplified the conditions in Lowland Scotland identified as those in place where rural industry established and thrived.

The higher the level of manpower productivity in agriculture, the higher the proportion of the labour force that could engage in secondary or tertiary activities and still be adequately fed.[6] The Carse of Gowrie was a populous area and one of the foremost grain growing areas of Scotland.[7] It has been demonstrated in earlier chapters that there was an expansion in grain production in the second half of the seventeenth century, both in terms of an increase in the area of ground cultivated and in the yields achieved.[8] The low grain prices that prevailed in the most years indicate that staple food for the large population was, in relative terms, plentiful.[9] The level of agricultural productivity in the Carse of Gowrie in the period under review afforded a substantial proportion of the population the time, the energy and

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[2] Whyte and Whyte, 'Some Aspects of the Structure of Rural Society in Seventeenth-Century Lowland Scotland',
[3] I. D. Whyte, 'Proto-industrialisation in Scotland', in P. Hudson, (ed.), *Regions and Industries* (Cambridge, 1989), 228-251.
[4] F. F. Mendels, 'Proto-industrialisation: the first phase of the industrialisation process', *Journal of Economic History,* 32, 1 (1972), 241-61.
[5] Whyte, 'Proto-industrialisation in Scotland'.
[6] E. A. Wrigley, 'Energy availability and agricultural productivity', in Campbell and Overton, *Land, Labour and Livestock*, 323-339.
[7] See Chapters 2.6 and 2.8, above.
[8] Chapter 4.4, above: 'Crop Yields'.
[9] *Ibid.*

the raw materials required to pursue occupations beyond the production of the food and basics immediate to their own and their families' needs.

As demonstrated in Chapter 3.5, above, the Carse of Gowrie boasted a high proportion of large farms. In excess of 70% of the arable land was farmed in holdings equivalent to half a ploughgate or larger, a size more than sufficient for a family to work and gain an acceptable living.[10] On large farms, full-time farm servants tended to be engaged only where there was year round work, as in the case of herdsmen and shepherds. Much work on arable farms was seasonal and in busy times it was general practice that the extra labour required was supplied by cottars. Called upon only when needed, cottars were allowed a small piece of land in lieu of wages on which to grow food and derive a subsistence. Their acre of land, however, was insufficient from which to make a full living.[11] To support a family, income from other sources was required. Quiet periods during the farming year allowed time for other occupations to be followed.[12]

Cottars formed the largest sector of the working population in the Carse of Gowrie. In the poll and hearth tax records examined in Chapter 3.5 above, cottars and tradesmen together accounted for half the households on the respective estates. In addition, there was also a very large number of smallholders who occupied and cultivated the land of the ferm touns and areas outwith the bounds of the larger possessions. It was also shown that in the region of 70% of Carse of Gowrie tenants farmed under half a ploughgate of arable land and that the majority of these possessed only a few acres - insufficient to provide more than a basic living.[13] While they may have had greater security than the cottars and enjoyed a higher social standing, the high levels of rent to which the tenant smallholders were subject made their economic circumstances very little different and put them in equal need of additional income.[14] Together, cottars, tenant smallholders and those designated in the tax records as tradesmen made up, with their families, the great majority of the inhabitants of the Carse of Gowrie. It is likely that well over half the

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[10] See Chapter 3.6, above.
[11] The record of cottars and sub-tenants on the Mains of Balthayock shows the amounts of land they possessed to have been on average, one acre. (Table 3.5)
[12] Whyte, 'Proto-industrialisation in Scotland', 246.
[13] See chapter 3.6.
[14] *Ibid.*

population of the district either were, or had the potential need to be, involved in either manufacture or a trade.

It has been noted previously in this thesis that a considerable problem encountered in the research into any aspect of the lives and occupations of the lower echelons of rural society in this period is the paucity of contemporary records pertaining to them. In the countryside, authority and regulation was centred on the laird and the estate and even where estate papers have survived in some quantity, these by their nature reflect the concerns and business of the landowner and his officers.[15] Estate account books can provide a great deal of valuable information relating to the financial relationship between landlord and tenant and transactions carried out at first-hand by the household or estate. However, their need to touch on the economic activities of sub-tenants, cottars, tradesmen, labourers and their families was slight. Rentals from the period do not normally include information on cottars and sub-tenants. (The level of detail included in the example from Balthayock is rare.[16]) The evidence for this study has been drawn, of necessity, from a wide range of sources, most of which are incomplete and none of whose primary purpose was to record either the extent and nature of manufactures in the Carse of Gowrie, or those engaged in them. Nevertheless, the available evidence presents a compelling picture of the numbers involved and the scale of manufacture carried on in the district in the latter part of the seventeenth century.

The possession of a house and yard afforded cottars and small tenants space; their land and livestock could contribute raw materials. The seasonal nature of crop production allowed them time. Together, these factors gave this, the largest sector of Carse of Gowrie society, the means and incentive to engage in independent manufacture on a commercial basis within the framework of the estate but, as their lack of inclusion in estate records testify, outwith the immediate direction, control and to a large extent interest, of the landowner. When free of the restrictions imposed by estate duties, levies and thirlage, the commercial initiative of the cottars and tenant smallholders was at least equal to that displayed by any of the higher echelons of society in the period under review. The scale of their enterprise and its importance to the national economy can be fully appreciated when it is considered

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[15] Whyte, *Agriculture and Society*, 5.
[16] Chapter 3.5.

that by the end of the century, linen - the principal product of the rural industry of the district and other similar areas of Scotland's eastern Lowlands – 'never amounted to less than one-third and sometimes to more than two-thirds of the total value of Scottish exports to England' and further, that 'the growth of the seventeenth-century linen trade appears in its own perspective to have been scarcely less surprising than the more famous "take-off" of the eighteenth century'.[17]

Although trades and manufacturing were an integral part of the rural socio-economic structure, there were a variety of limiting factors on both the nature and the scale of the industries that could be carried on. These included controls exercised by landowners, the limited scope offered by local markets, the restrictions on the sale of country-produced goods imposed by burghs, as well as the accessibility of raw materials.

In the countryside, authority was centred on the landowner and in the organisation of the estate. Lairds were able to exercise control in their domains by economic pressures backed by the legal strength of their baron courts. In these, all but the most serious criminal activities could be dealt with, tack agreements ratified and custom interpreted.[18] Restrictions on trades and manufactures were traditionally imposed most rigorously by estates in the cases of those occupations that held a central role in the economic life of the community. The primary example is that of corn milling. It was the norm for the estate owner to supply and maintain the machinery and the basic structure of the mill.[19] This, together with any land attached to the mill, which might only be a few acres but very often was a substantial farm, was then leased to a miller who paid rent to the proprietor.[20] The rental agreements of the tenants within a specific area (the sucken) demanded that all their grindable corns were taken to the estate mill (thirlage).[21] The miller held

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[17] Smout, *Scottish Trade*, 233.
[18] Smout, *A History of the Scottish People,* 115.
[19] See for instance, NRA(S) 885, 112/5/20 (1637), Errol; 112/8 /46 (1637), Inchyra; 198/5/7 (1650), Potterton; 26/7/22 (1704) Dronlaw.
[20] PKAC MS169/14/2/8, (1674); MS97/9 (*c.*1680).
[21] The sucken often equated with the bounds of an original mediaeval barony rather than those of the contemporary estate.

back a fixed proportion of the grain (multures), on average a twentieth part, in payment.[22]

A similar arrangement also operated on most estates in Lowland Scotland in regard to the smiddy. Fixed fees and duties were imposed on the blacksmith and in return all tenants were required to take their business to him.[23] The restrictions prevented any millers or smiths setting up in business independent of the estate. These trades in particular were of enormous importance to the prosperity and well-being of the communities they served. A quern might be sufficient for the domestic needs of a family, but the hand grinding of corn was time-consuming and unfeasible for large-scale and commercial production. Iron and metal of any kind was expensive and needed a high degree of specialist knowledge, skill and equipment to work. Brewing also tended to be subject to strict controls. The trade consumed a large proportion of the bere crop and so accounted for a significant proportion of the income to be derived from grain growing. Ale was the universal drink, the heat process in its production making it far safer to drink than water.[24]

All of these businesses required purpose-built premises and therefore, a substantial amount of capital to set them up. The smiddy needed a furnace; brewers required a kiln and vats. A corn mill needed buildings strong enough to carry a waterwheel (in the Carse of Gowrie watermills were the norm) and withstand the weight and vibrations of the attendant machinery and grinding stones, as well as a kiln of its own and in most cases a dam and lade.[25] With the premises built and maintained by the estate and then let to skilled trades people, access to essential services was provided for tenants and the wider community in as fair and as affordable way as possible. When properly regulated and honestly run these were facilities well suited

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[22] Whyte, *Agriculture and Society,* 32. For a full discussion of the subject, see E. Gauldie, *The Scottish Country Miller, 1700-1900* (Edinburgh, 1981).

[23] 'The smiddie is liable to ane entrie at the incoming of each smith. William Smith possesses the same presentlie and is oblidged to work at the Rates particularly mentioned in his tack.' NRA(S) 885, 64/1/1 (1671).

[24] Records from baron and higher courts contain many actions against brewers for not carrying out their trade in a proper manner. Some Montrose brewers, for instance, confessed to over-charging for ale and drinking beer under the act of 1666. The beer was also described as insufficient, under-strength and weak "... because it is not well boyled and concocted and so unhealthful that it may and is apt to occasion diseases and distempers ... [and also] ... to cause and stir up the discontent and clamors of the people". NRA(S) 885, 30/9/5 (2i), 1677.

to the needs of subsistence communities locked into an unimproved agricultural economy.

However, the monopoly that was intrinsic in the manner of their provision laid them open to the abuses of exploitative landlords and greedy or corrupt millers,[26] brewers and smiths.[27] At Pitcur in 1684, the real or perceived injustices perpetrated by the tacksman (George Mercar) of the mill there, led tenants to carry out serious damage to the mill-dam.[28] For this, a fine of 13s 4d per chalder of grain plus a duty of 100 merks - to be doubled if it occurred in the future - was imposed by the baron court on all tenants.[29] Tenants particularly resented the element of service due to the mill, which could be demanded by the miller even in the midst of harvest.[30] As mentioned in Chapter 4.2, above, thirlage also provided a means by which landlords, if they were so minded, were able to control the manner in which tenants marketed their corn. Such monopolies and restrictive practices worked against the development of the rural economy, its commercialisation and the independent initiatives that could be undertaken by individuals.[31]

The number of disputes and extended actions to be found in court records is evidence of the importance attached to the preservation of the restrictive monopoly embodied in thirlage, both with regard to the financial implications and the retention of feudal controls over tenants.[32] In spite of the economic benefits that the introduction of lint mills in the first half of the eighteenth century offered estates, these were resisted by some landlords and the very presence of another mill in the sucken of an existing corn mill was regarded by the law lords as opening a door to the defrauding of the system of thirlage. Although it could be allowed to lapse, not until 1799 was there an Act of Parliament passed that laid down procedures by

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[25] On Pont 26 a windmill is depicted at Ardgaith at the western edge of the parish of Errol. (Figure 2.7)
[26] *OSA,* Vol. XI Longforgan, 372
[27] Over-charging and sharp-practice by the Longforgan smith caused Patrick, Earl of Strathmore to vent, over the years, a good deal of spleen. See for instance, NRA 885, 190/1/15 (1680) and 190/1/20 (1686).
[28] Pitcur immediately neighbours Longforgan parish, to the north.
[29] NAS, RH 4/10, Court Book of the Baronies of Pitcur and Haliburton.
[30] Gauldie, *The Scottish Country Miller,* 59.
[31] Blair-Imrie, *The relationship between land ownership and the commercialistion of agriculture in Angus,* 171 and 198.
[32] See for instance, PKAC, MS100/24; a dispute concerning the thirlage of tenants to the Mill of Haughmuir in the parish of Errol, (1770-1).

which estates might be freed of thirlage.[33] On some estates the practice was retained well into the nineteenth century.[34] E. Gauldie concluded that thirlage in itself did not impede development where there was a will towards improvement.[35] However this was not the perception held by many Improvers writing in the late eighteenth century.[36] The practice of thirlage was seen as a particularly pernicious restriction that prevented any choice by tenants in where to take their grain, or in the free negotiation of rates for grinding their corn at a time when improved practices and technology were being introduced across the agricultural sector. In 1794 James Donaldson singled out the tide-mills that were situated near the outlets of all the Carse of Gowrie streams to the Tay, as the most serious impediment to further agricultural improvement in the district. Their interruption of the flow of water caused flooding and prevented effective drainage of the low-lying ground. He identified thirlage as the obstacle to their elimination, even though the system had already been removed from the majority of mills in the district. He concluded that without compensation for their losses, the proprietors of the tide mills would not be persuaded to 'throw them down'.[37]

Although in the second half of the seventeenth century the market place was growing, it was not sufficiently strong to threaten the monopoly on grinding corn held by the estate corn mills. Other trades, however, were able to expand on the initiative of tenants and in spite of restrictive practices on the part of their estate. An example of this can be seen in the increase in the numbers of brewers on Castle Lyon. In 1671, John Miller, a tenant smallholder was recorded as the principal brewer there; in that year he purchased in excess of 40 bolls of bere from the other tenants with which to make malt.[38] In 1686, a ruinous malt house, including a kiln, coble and yard was to be built new and let to Alexander Watson, younger, tenant of the West Maynes (a holding extending to a ploughgate of land) for a yearly

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[33] As well as the general economic advantages to all those engaged in the production of lint, the Board of Trusttees for the Encouragement of the Linen Industry offered financial assistance towards the establishment of lint mills. Gauldie, *The Scottish Country Miller,* 50-51.
[34] DCRAC, GD/Ba/10 (List of dues and multures payable by farms thirled to the Miln of Abernyte, 1846.)
[35] Gauldie, *The Scottish Country Miller,* 61.
[36] See for instance, J. Robertson, *General View of the Agriculture of the Southern Districts of the County of Perth* (Edinburgh, 1794), 119
[37] Donaldson, *General View of the Agriculture of the Carse of Gowrie,* 34-5.
[38] NRA 885, 64/1/1 (1671).

supplement to his rent of £33 6s 8d.[39] In 1689, however, Watson gave up his tenancy at Castle Lyon to move to a larger farm at Invergowrie; the building work on the brewseat had yet to be done.[40] It was left up to Alexander Henderson, the incoming tenant to West Maynes to pay a local mason Patrick Flowers (Flowers was also the tenant of a smallholding on Castle Lyon) £80 for carrying out the work on the malthouse and other buildings. This sum was subsequently allowed against Henderson's rent. The 1691 compt book shows that in addition to Henderson there were at least three other brewers on the estate at that time; John Bathie, a tenant smallholder and the main supplier of ale to the Earl's household and two large farmers, each a tenant of two ploughgates of land.[41] By 1714, out of a total of forty-nine tenants on the estate, nine were recorded as being brewers.[42] In addition to the four largest farmers on the estate who were all established as brewers, there were five tenant smallholders, none of whom possessed more than eight acres of land.

The increase in the numbers of brewers is testament to the commercial enterprise to be found in the Carse of Gowrie among tenant smallholders. On Castle Lyon (and Glamis) it was the practice that tenants purchasing their own ferme bere, or the ferme bere of other tenants, for the purpose of brewing, had to pay an additional levy (approximately 12.5%) above the rate set by the estate each year as the monetary value of that grain.[43] Tenants setting up as brewers, therefore, made good business for the estate, providing extra income at little or no cost. A tenant leasing a brew-seat built and equipped by the estate was charged an additional rent, but most were left to erect and maintain kilns and the necessary buildings at their own expense.[44] The low price for grain and the over-supplied markets that prevailed in many years in the second half of the seventeenth century must have encouraged cereal growers to add value to their produce. For the largest farmers with substantial households of their own to supply with ale, as well as to all their cottars, a commercial brew-house would make sound financial sense. The tenant smallholders who were engaged in brewing, however, had no such guaranteed outlet on which to fall back; they competed in the open market place and in the

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[39] NRA 885, 190/1/20 (1686).
[40] Millar, *Glamis Book of Record*, 98.
[41] NRA 885, 190/1/23 (1691).
[42] NRA 885, 53/2/15 (1714).
[43] *Glamis Book of Record*, 54; also NRA 885, 190/1/23 (1691) and 53/2/15 (1714).

face of the large additional tax that the levy charged by the estate on grain to be used for brewing, represented.

The accessibility of raw materials and the market for skills and manufactures were critical to the nature and scale of the occupations carried on. A case in point was leather from the hides of the cattle that were integral to farming in the district, pasture or arable. Most estate rentals numbered a soutar, cordiner or shoemaker among the lists of tenant smallholders.[45] By the eighteenth century and possibly before, shoes from the surrounding countryside were being sold in the burgh of Perth. G. Penny notes that before 1770 'the trade [for shoes] was confined entirely to the manufacture of shoes of a heavy description for the home market; many of these were made by shoemakers in the country, who had a pit or two for tanning their own leather'.[46]

An example of the way in which the presence of raw materials fostered other trades in the district can be seen in the building works carried out by Patrick, Earl of Strathmore, in the second half of the seventeenth century when he was able to source locally, wrights and masons capable of taking on major building projects and producing high quality work to exacting standards.[47] Dundee was a principal entry point to Scotland for wood from Scandinavia. The ready availability of timber was reflected in the high proportion of timber buildings to be found in Dundee compared to other Scottish burghs.[48] The quarries at Kingoodie produced high quality stone. Principal contractors for works carried out on Castle Lyon and at Glamis were the master wright, Andrew Wright, who feued the possession of Byreflatt at Longforgan in the 1680s and the master mason, Alexander Craw, tenant of a substantial smallholding on Castle Lyon and who, from the 1690s, was the possessor of a holding of two ploughgates there. In contrast, the Carse of Gowrie had no stone suitable for roofing slates and the Earl had to go to Andrew Low in Arbroath, a

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[44] NRA 885, 190/1/13 (1678).
[45] See for instance, PKAC MS169/14/2/8 (1698), also NAS, GD316/10 (1696), above.
[46] G. Penny, *Traditions of Perth* (Perth, 1836), 240.
[47] For examples of detailed building contracts pertaining to work on both Castle Lyon and Glamis *c.*1670s-1690s, see particularly NRA 885, 148/1.
[48] Comment made by Professor Charles McKean at a seminar in the University of Dundee, 20/11/02.

master craftsman based near the slate quarries of Angus, to find a slater of sufficient expertise.[49]

The building of new residences, the refurbishment of castles and the creation of parks and policies that occurred in the latter part of the seventeenth century provided work for a growing number of both skilled craftsmen and unskilled tradesmen.[50] An account for work carried out by Alexander Craw at Castle Lyon in the years 1691 to 1693 shows him to have worked there himself for a total of seventy-five complete weeks over the three years at a charge of £5 per week. In addition to this he 'wrought' ten pedestals, six for Castle Lyon and four for Glamis, at £24 each. Two of his masons, Robert Tylor and John Colen, worked 95 weeks and 93 weeks respectively at a charge of £3 per week.[51] This is more than the rate of £2 10s 0d per week paid to a skilled mason (David Lindsay) at Glamis in 1675,[52] but corresponds to the £27 paid to a local mason employed at Castle Lyon for nine weeks on day wages in 1686.[53] The available evidence is inconclusive, but implies that the working week for the masons may have represented five rather than six days. If so, even allowing for 'mark-up', these rates reflect wage levels comparable with that paid to the local workers refurbishing cottar houses at the Rawes farm in 1708. There, for making couples, doors and 'cheeks', the wrights were paid 10s 0d per day; for the men who built the walls with divots and thatched the roofs, the wages were 8s 0d per day.[54]

In the example above, the wage rates for skilled tradesmen such as the masons employed by Alexander Craw, earning £90 for 30 weeks' work, were considerably higher than those that could be achieved by ploughmen - the highest paid farm servants - who were paid £24 per year plus their meal (worth, on average, an additional £27). This takes into consideration the probability that tradesmen may well have had to endure many weeks of unemployment, particularly those employed in building work, during the winter months. Farm work, throughout history, has

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[49] NRA 885, 148/1/62.
[50] See Chapter 4.5, above. For the extent of new building being engaged in by proprietors during this period see C. Wemyss, Unpublished Mphil, (University of Dundee, 2002), chapter 1.
[51] NRA 885, 148/1/58.
[52] NRA 885, 148/1/53.
[53] NRA 885, 190/1/20.
[54] NRA 885, 148/2/102.

been one of the lowest paid of all occupations. The growing number of opportunities outwith primary agriculture offered by Scotland's developing economy in the second half of the seventeenth century, must have seemed no less attractive to the lower echelons of rural society then, than did those offered by industrialisation in the eighteenth and nineteenth centuries.

By far the most important and widespread occupation in the Carse of Gowrie outwith agriculture was that of linen production. Flax was grown throughout the district and had a long history in the area. Archaeological finds at sites on Loch Tay show that the growing of flax and weaving of linen in Perthshire stretched back into pre-history.[55] While from the sixteenth century there is record of an increasing importation of flax from the Baltic and Holland, into Dundee, there is also much evidence that it was grown widely and on a commercial basis in the Carse of Gowrie.[56] (For seed and oil as well as fibre.[57]) The scale on which flax could be grown was testament to the productivity of agriculture in the district and its capacity not only to meet comfortably in normal years the food supply of the local population, produce grain both for export to other regions and abroad, but also grow the raw material for a rapidly expanding commercial industry.

In 1689, the Reverend Thomas Morer journeyed through the Carse of Gowrie. His *A Short Account of Scotland*[58] is one of the more measured and perceptive accounts by an English traveller in that period.[59] Describing the farming and crops of the region, he writes:

> But that which employs great part of their Land is Hemp, of which they have mighty Burdens, and on which they bestow much Care and Pains to dress and prepare it for making their Linen, the most noted and beneficial Manufacture of the Kingdom.[60]

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[55] J. Miller, J. H. Dickson and T. N. Dixon, 'Food plants at Oakbank Crannog', *Antiquity Journal,* Vol. 72/728 (December 1998), 805-811.
[56] S.G. E. Lythe, 'Scottish Trade with the Baltic, 1550-1650', in J. K. Eastham (ed.), *Dundee Economic Essays* (London, 1955), 63-84. See also, DCARC, *Shipping Registers.*
[57] Hogsheads of linseed were regularly exported from Dundee and Perth to Holland. In 1690, eighty-one hogsheads were shipped from Dundee. (NAS, E.72/18/1, Custom Book, Perth (1682); NAS, E.72/7/22, Custom Book, Dundee (1690).
[58] T. Morer, *A Short Account of Scotland* (London, 1715).
[59] See P. H. Brown, *Early Travellers in Scotland* (London, 1891).
[60] Morer, *A Short Account of Scotland,* 4. Although flax and hemp are quite different plants, the method of their cultivation is similar as is the fibre they produce (although that of flax is finer). 'Hemp' appears to have been a term used commonly for flax.

Estate rentals reveal the extent to which flax was grown and the place of linen production in the local economy. A majority of the extant rentals for the period under review included lint, linen thread or linen cloth as part of the assessed rent. The proportion and form in which this was levied varied from estate to estate. In 1634, on the Barony of Errol, 30% (fifty-six out of 184) of holdings had a part of their rent assessed in woven linen (amounting in total to 504 ells).[61] On Inchleslie in 1650, 50% (forty out of eighty-two) holdings also had part of their rent assessed in linen (a total of 247 ells).[62] On Castle Lyon, however, the 'aikermen' were obliged to pay one stone of lint annually, or its equivalent in money or harvest labour at the choice of the laird. No lint was levied on any of the other holdings of that estate, large or small. On Fingask in 1696, all 43 holdings on the estate had part of their rent assessed in 'heirs' of linen yarn (amounting to a total of 557 heirs, the equivalent of 334,200 yards or 24 spindles).[63]

The contemporary records suggest a number of factors as to why the rent of some holdings included lint or linen while others did not. It would seem that, historically, possessions that included some arable land within the holding were charged a proportion of linen-rent. The possessions on the best arable ground paying substantial amounts of grain-rent also bore the highest amount of linen rent. On the Barony of Errol, 77% of the assessed linen-rent was payable by holdings paying twenty bolls or more in grain-rent. The situation on Inchleslie was similar, although smallholdings there were assessed at a proportionately higher rate than the largest holdings. On neither estate was linen-rent levied on holdings that were mainly or entirely pasture - for instance the very marshy holdings of Jopsland and Myreside at Pitroddie and the low-lying possessions below Craigdallie. On the Barony of Errol, tenants pursuing specific trades outwith linen production were exempt, even where a substantial amount of arable land might be included in the holding. Examples of this include the mill lands, the smiddy holding, that of the boatman and the orchards.

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[61] PKAC MS100/963, (1634).
[62] NAS GD26/5/248.
[63] PKAC MS169/14/2.

The rentals also indicate that linen rent was not levied on any estate holdings situated on mains land nor, particularly as the century wore on, where wadsets were, or had been, in place. Mains land was historically worked by a laird's own servants and therefore not subject to rent. In the seventeenth century, however, a significant proportion of mains farms in the Carse of Gowrie were either let to tenants, or wadset.[64] It seems not to have been the practice to include linen products when the rent or duty on such land was assessed. Whilst in the ownership of the Earl of Newburgh, the whole of the estate of Kinnaird was wadset; any linen rent that might previously have been levied was either allowed to lapse or commuted at that time. When Sir Patrick Threipland of Fingask purchased the estate, no linen rent was levied on any of the tenants' possessions - including that of the weaver, John Jackson, who paid for his holding one and a half bolls of bere and was charged neither money nor kane rent. (Only seven of the fifty-four holdings on the Kinnaird estate in 1696 included the normally ubiquitous kane fowl in their rent.[65])

The pattern presented by the rentals indicates that, although those tenanted possessions in the district that included arable land had traditionally, as mentioned above, a proportion of their rent levied in linen, this was being increasingly commuted or allowed to lapse. No tacks so far seen from the period granted in regard to farms within the district included a charge of linen rent. In contrast, when the Mill of Dronlaw was let together with one plough of land in 1700 on the Auchterhouse estate of the Earl of Strathmore - lying outside and to the north east of the Carse of Gowrie - the rent payable yearly was recorded as two and one third bolls of bere, five bolls of oats, £173 6s 8d in money and twelve ells of linen.[66] The evidence suggests that while flax growing and linen production in the Carse of Gowrie was general on any holdings capable of growing the crop, by the second half of the seventeenth century the product itself was not, as ferme, considered an economically desirable commodity by the landowners - particularly when compared with the income and advantages to be derived from grain rents, the value of the labour services provided by tenants and the convenience of poultry for both eggs and their tables, on demand.

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[64] See Chapter 3.5, above.
[65] PKAC MS169/14/2/8.
[66] NRA 885, 26/7.

A criticism laid against linen manufacture in Scotland in the early part of the eighteenth century was that the market was not organised and did not control production. It is likely to have been even less organised in the seventeenth century. Small independent manufacturers carried their goods to market 'on spec' and accepted whatever price the trade of the day had to offer. Buyers made the best of what was put before them. ('Linen is bought and sold as an Adventure ....'[67]) At Perth, the export market for linen was still in its infancy but growing extremely fast in the 1680s.[68] There is no evidence extant of local middle-men directing producers or of master manufacturers implementing putting-out systems and controlling production at this time.[69] The small individual lots of thread and woven cloth that made up the linen rents of the Carse of Gowrie estates are likely to have been of variable, and perhaps comparatively poor, quality. Lairds' households could only use so much and a market for the rest would perhaps not be readily found by landlords already exercised by the problem of selling their much more valuable grain in an over-supplied market.

The growing of flax as a crop and - before the introduction of any mechanisation - its making into linen, entailed a series of time-consuming and hard physical processes. The flax seed (linseed) was sown usually in April, in well-prepared ground. The growing crop had to be weeded in the early summer before it bloomed. It was harvested by pulling out the whole of the plant, including the roots. Seeds had to be removed from the stalks by beating the flax, a handful at a time, on a 'rippling caimb'. The stalks were then tied in loose bundles and weighted down with stones or turfs in pools of stagnant water (lintpots) where they were steeped for a week or more to start the separation of the outer woody part of the stem from the fibres proper. This part of the process was termed 'retting'. The removal of the bark was completed by first lying the flax out in the fields to dry before beating it over a baulk of wood with wooden mallets until the stems were completely 'broken' and the bark removed (scutching). The fibres had then to be

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[67] *The Case of the Printed Linens of North Great Britain, (1719)*, Guildhall Museum, London, A 1.3, no. 14 in 64. Quoted in Durie, *The Scottish Linen Industry in the 18th Century* (Edinburgh, 1979) 8.

[68] See Table 4. , below.

[69] In her study of Atholl, L. Leneman found no evidence for the control of any production by entrpreneurs there in the seventeenth century, or the early years of the eighteenth. L. Leneman, *Living in Atholl, 1685-1786* (Edinburgh, 1986), 206.

combed (heckled) in order to draw them out in an even manner suitable for spinning.[70]

The labour-intensive nature of the crop and its manufacture lent itself to small-scale production. The pamphlet written in 1719 from which the quotation above was taken, also described linen manufacture in Scotland as '... but by single families in proportion to the hands and the time they have to spare.'[71] This was certainly true of the Carse of Gowrie in the second half of the seventeenth century, where a great many cottars and tenant smallholders had, as shown earlier in this chapter, a portion of land on which flax could be grown as well as their own house and yard where it could be processed, spun and by some, woven into cloth.

In none of the estate papers examined for this study, has evidence been found pointing to landlord participation in any trade pertaining to linen produced on Carse of Gowrie estates. The Countess of Strathmore did organise personally, the spinning, weaving, bleaching and dyeing of the prepared lint paid by the Longforgan aikermen as part of their rent. The amount she chose to take in varied from year to year; her preference in general was to have most of the lint element of their rent paid either in the money equivalent or in the form of a shearer at harvest. The largest amount in any one year was probably the eighteen stones and four pounds taken in 1686; in 1698 only three stones of lint were taken in and the total for the two years 1704 and 1705 was nine and a half stones.[72]

Women were employed to spin the flax during the winter and spring. Wool from the countess's own sheep flock was spun between the end of May and September. (It is worth note that although sheep were kept in the district, their numbers were not sufficient to attract rent in the form of fleeces or wool products.[73]) In 1672, eight women were employed to spin flax and ten to spin wool, only three spun both materials. All payments were made in meal.[74] In 1695 a total of fourteen women were employed by the Countess to spin, two of whom also carded wool.[75] Local

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[70] Durie, *The Scottish Linen Industry*, 2-3.
[71] *The Case of the Printed Linens of North Great Britain, (1719)*, Guildhall Museum, London, A 1.3, no. 14 in 64. Quoted in Durie, *The Scottish Linen Industry,* 8.
[72] NRA 885, 190/1/20; 54/1/8; 54/1/14.
[73] See Chapter 4.4, above.
[74] NRA 885, 190/2.
[75] NRA 885, 64/1/21.

tradesmen and women, who were also tenants on the estate, were employed to bleach, dye and weave the cloth.[76] No records so far seen suggest that the manufactured cloth was for use by other than the household.

It was common practice for lairds to furnish servants with clothing as part of their wages.[77] The poll list for Seaside, Auchmuir and Gourdiehill, reveals that the servants on that estate received a large proportion of their fees in several different kinds of cloth.[78] In addition to his money fee of £9 10s, James Syme received six ells of hadden, six ells of swaddling and two ells of linen valued at £4 16s 8d, plus two pairs of shoes. Barbra Mathou was paid a fee of only £2 13s 4d in money, but also received ten ells of plaiding, eight ells of harn, two ells of linen, two ells of winchy, one and a half ells of swaddling and half an ell of hadden, worth in all £7 3s 6d, plus one pair of shoes. These payments suggest the ready availability of cloth in the locality (wool as well as linen, although woollen cloth does not seem to have been produced on any substantial commercial scale) and its use as currency in a manner similar to meal, beyond the traditional supply of a suit of clothes.

By the last quarter of the seventeenth century, linen did not appear to be of commercial interest to landlords in the Carse of Gowrie. The estates that still received lint and linen products as rent in-kind, seem to have used this only within the household and not traded it on. Linen production in the district was initiated, carried out and controlled by the lower echelons of society, the cottars, sub-tenants and tradesmen. The large majority of this class did not pay rent (other than kane fowl) to the landowners. Most of the manufacture and trade in linen, therefore, was outwith the traditional parameters of a laird's relationship – economic or feudal - with his or her tenants. The evidence of the Perth customs records suggests that the boom in linen exports from the region to England commenced in the 1680s. (See Table 4.3, below.) Linen manufacture was not constrained by any levies or restrictions that estate owners may have imposed upon it and the rural population was able to react quickly to expand their production, meet demand and consolidate the market.

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[76] See, for instance NRA 885, 190/2 (1672), 58/6 (1677), 62/2 (1691) and 67/4/2 (1698).
[77] See for instance: PKAC MS100/1084, 27th June, 1695. (Will Brown, porter, received £11 12s 8d plus his poll money of £7 8s, 'besyd an suit of clothes and an frok as he had from Sir Jon Hay'.)
[78] NAS, GD316/10, (*c.*1696).

C. A. Whatley has shown how low wages together with the flexible labour force provided by women and children were critical ingredients in Scotland's industrial revolution of the eighteenth and nineteenth centuries.[79] The wives and children of the tradesmen, cottars and tenant smallholders of the Carse of Gowrie in the later part of the seventeenth century were similarly in place and able to provide the necessary additional labour. In spite of the need for many extra hands on farms at busy times, the availability of field jobs for women appears to have been limited in the district in this period. Even at harvest, estate records show that the large majority of shearers were men. The lists of casual workers employed at Castle Lyon throughout this period contain the names of very few women.[80] The large population and absence of casual women workers suggests that jobs were in relatively short supply and that preference was being given to men. Although wives and daughters would do much of the work on the families' own patches of ground, they also needed to bring in income. Their part in the production of linen – particularly the spinning of flax when up to six spinners might be required to meet the needs of one weaver - provided a very important additional source.

Carse of Gowrie landlords did not have a direct commercial involvement in linen production, but the implications of the amount of flax grown and the importance of the crop and its manufacture to the economy of their estates and the district as a whole was fully recognised. In 1694, a tack between Peter Hay and Mr Mungo Murray in respect of the Mains of Leyes contained the unusual clause that 'Mr Murray hereby hes liberty to sow yearly in the field land two firlots Linseid free of any tiend, third or duty'.[81] Flax is a very deleterious crop, hungry and damaging to the soil, but Murray was given specific permission to cultivate a certain amount, and the land on which it was grown was not to be subject to rent. The clause has an air of being a concession insisted upon by the tenant rather than an encouragement on the part of the landlord, but its presence attests to the significance attached to the crop by both parties, if for different reasons.

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[79] C. A. Whatley, 'Women and the Economic Transformation of Scotland *c.*1740-1830', in *Scottish Economic and Social History*, Vol. 14, (1994), 19-40.
[80] See for instance NRA 885, 62/2 (1691).
[81] SAUL, MS36220/873.

Detail from *the Prospect of Dundee from ye east,* John Slezer, 1693, showing women washing linen.
Reproduced by permission of the Trustees of the National Library of Scotland.

High levels of population (as in the Carse of Gowrie) would be vulnerable in years of poor harvest in a subsistence economy. In such circumstances there was a considerable danger of large numbers needing the support of the parish. Hungry and unemployed people formed a threat to social order. A large proportion of the lower orders of society earning income from additional sources of employment such as a trade or manufacture greatly reduced both the potential burden and the danger. Of no less importance to landowners was that the sale of manufactures outwith the estate generated much needed specie – in the case of linen sold to English buyers, possibly even valuable sterling - to be brought back and used within the local economy and from where it could be channelled towards the laird. (In Atholl, L. Leneman found that landlords had little expectation of receiving rent from their tenants before the spring linen sales.[82])

The recognition by landowners of the importance of linen manufacture is to be seen in the measures taken by the Scottish parliament at national level and through the baron courts at a local level, in their efforts to standardise and improve the quality of linen. In 1667 a petition was before the Lords of the Exchequer concerning a dispute between David Wemyse and the town of Perth. David Wemyse had been granted 'his majesties gift' for regulating 'the weight and measure of yarn, breadth and bleaching of linen cloth'. He claimed that inspite of asking the burgh to 'lay down that which would be of most advantage to the towns interest, the management in their own hands', he was not being allowed to carry out his charge. The Lord Justice Clerk was appointed to hear the petitioner and the town of Perth and to report their difference within fourteen days. In the meantime Wemyse was discharged '... to trouble or molest any persone or persones in the mercats and fairs of St Johnstoun this summer seasone by exacting fines conforme to his gift for not due regulation of the measure of yairne and linning cloath ...'.[83] In 1684, the baron court of Pitcur and Halyburton, an estate neighbouring Longforgan parish to the north, ordered that all commodities for sale by tenants at any market, had first to be offered for inspection to the laird, lady or their officers.[84]

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[82] Leneman, *Living in Atholl, 29-30.*
[83] PKAC, B59 24/8/1.
[84] NAS RH 4/10.

The use of lime to bleach linen – a cheap method that allowed the price to be kept down - was regarded as particularly injurious to the cloth, as it caused it to rot. Its use gave Scottish linen a bad reputation and made it more difficult to sell.[85] In the Carse of Gowrie effort was made to enforce a ban on the use of lime in bleaching, enacted by the Scottish Parliament. In 1692 at the baron court of Carse Grange, the seriousness with which the offence was regarded was demonstrated when six local men were each fined £20 per year, for fifteen years, for the liming of cloth.[86] Again in 1709 under the same law, three tenants on the Leyes estate were each fined £20 for bleaching with lime.[87] The number of tenants and the tradesmen working in other occupations named in the above examples (of the six men fined in 1692 one, Thomas Syme, was a brewer and another, James Jackson, a hammerman) reinforces the evidence for how wide was the involvement in linen manufacture among the lower echelons of the population in the Carse of Gowrie.

By the middle of the 1680s, Perth was Scotland's primary centre for linen and it is likely that much of the cloth originating in the Carse of Gowrie passed through the market there. There are no figures available for 1684, but prior to that time the surviving customs entry books for Dundee and Perth suggest that the export of linen from the region tended to be by ship, with London the principal destination. The entry book for 1685, however, records a massive increase in exports from Perth with over 100 horse packs, each of 1,200 ells of linen, being transported overland to England. Details of linen exports from Perth and Dundee taken from the extant books are at Table 4.3, below.

The export market for Perth linen continued in a similar vein well into the eighteenth century. In 1711, the magistrates at Perth wrote to Provost Yeaman of Dundee, the Member of Parliament for the two burghs, in connection with a proposed Act pertaining to the regulation of cloth:

> Its our opinion thee gett in quarter pieces of white cloath which will be 10 yards and will sute the sale and convenience of out Country better, for we are not so much to Regarrd the London mercat as the country

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[85] Smout, *Scottish Trade,* 234.
[86] SAUL, MS36229/1824.
[87] SAUL, MS36229/64.

Retail in England of which 7 parts of 8 is retailed in the one beyond the other. And sutes the convenience of the chapmen who retail it in the Country of England.[88]

Table 4.3 Exports of Linen from Dundee and Perth (Extant Customs Entry Books[89])

Year	Dundee		Perth	
	(ells)	Destination	(ells)	Notes and Destinations where known
1682	3,520	3,400 ells – London 120 ells – Stockholm	609	To Norway and Sweden,
1683			2,970	1,900 ells – London 1,070 ells – Norway and Sweden (also 600 lb lint for Norway)
1684				
1685			131,400	130,200 ells by land to England 1,200 ells by land, for Ireland
1686			339,100	All by land to England
1687				
1688				
1689			271,200	
1690	67,400	66,860 ells – London 540 ells - Norway	326,400	Bleached linen, purchased principally by merchants from the southwest and west of Scotland
1691	50,240	London	345,000	Purchased principally by merchants from the southwest and west of Scotland

In the Carse of Gowrie the boom in linen production in the later seventeenth century was brought about by the needs, initiative, ability and commercial ambition of the district's cottars, tradesmen and tenant smallholders. In general, landowners encouraged the production of linen and took measures to improve its saleability. They recognised its importance to their local economies in bringing in much needed specie and ultimately wealth to their estates as well as, at a national level, providing a commodity for trade and export. In the later seventeenth century it was not a trade, however, in which they played a part. Until evidence is found to suggest

[88] PKAC, B59 24/8/4.
[89] NAS, E72/7 (Dundee) and E72/18 (Perth).

otherwise, it must be assumed that merchants too, many of whom were active in the development and improvement of local estates, did no more, in the period under review, than trade in linen and did not involve themselves in its manufacture.

The scale and success of linen production in the Carse of Gowrie demonstrates the commercial enterprise that was to be found among the lower orders of the rural population when given the opportunity and when free of the restrictive practices that pervaded the socio-economy of the estate system. They achieved it by utilising to the full the limited capital in their possession: their time, their labour, the space afforded by their house, yard and plot of ground, and their family as a unit of production.

5 CONCLUSION

... for lack of careful cultivation much of the land was a wilderness. Methods of raising crops had remained unaltered for centuries, standards of farming had deteriorated since the battle of Flodden, and the piratical practice of forcing the soil to give a return until it was exhausted, without any attempt to make good the virtue that it lost in the process or even permitting it an interval of rest to recuperate, had resulted in a steady decline in the quality of the land. By the end of the seventeenth century much of this land had reverted to its primitive state, and increasing poverty had developed in the Scottish peasant a spirit of apathy and listlessness which prevented him from seeking out ways and means to better his condition.[1]

The extract quoted above, written fifty years ago, presented what was then the widely accepted picture of seventeenth century Scottish agriculture.[2] In the decades since, a number of historians and historical geographers, through research based on contemporary records rather than an over-reliance on writings from the last quarter of the eighteenth century, have done much to ameliorate this view.[3] Even so, a major work on social change and the agrarian economy in the Lowlands, published in 1994, opened with a chapter on the later seventeenth century that was entitled 'The Old Order'.[4] Neither the description contained in the extract nor such a chapter title could, however, be applied to the Carse of Gowrie between 1660 and 1707. During that period the district was engaged in a process of fundamental change and modernisation that was carried out with energy and which encompassed all sectors of society.

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[1] J. E. Handley, *Scottish Farming in the Eighteenth Century* (London, 1953), 11-12.
[2] See also: T. B. Franklyn, *A History of Scottish Farming* (Edinburgh, 1952) and J. A. Symon, *Scottish Farming Past and Present* (Edinburgh, 1959).
[3] One of the earliest and most significant articles to contest the traditional view was that of T. C. Smout and A. Fenton, 'Scottish Agriculture before the Improvers – an Exploration', in *Agricultural History Review,* Vol. 13, 1965, 73-93. Other leading writers in this field include G. Whittington and I. D. Whyte.
[4] Devine, *Transformation,* 1-18.

The energy was economic and born of the dire straits in which Scotland found herself at the end of the Revolutionary Wars: defeated, financially all but bankrupt, short of specie, with little more than primary products to trade and only a handful of ships in which to carry them. The inhabitants of the Carse of Gowrie utilised to the full the assets that were available to them: fertile soil and a favourable climate, proximity to centres of population and good access to trade routes. The established structure of large tenanted holdings and a small but significant number of owner-occupied farms worked by professional farmers (a large proportion of whose families had farmed successfully in the district for many generations) made agriculture in the Carse of Gowrie a commercial business. In spite of the low grain prices that predominated, land previously uncultivated was brought into production and real improvements in yields were achieved, providing a basis for economic expansion, development and trade.

Social development was integral to modernisation and progress within the economy. One of the most important areas of change that has been identified was in the growth and influence of the middling sorts. This sector of society was drawn from a mix and the intermarriage of the families of feuars (who occupied and farmed small estates acquired when the outlying granges of the abbeys of Coupar Angus and Scone were feued in the sixteenth century), of the tenants of the large farms that dominated agricultural production in the Carse of Gowrie, and of the merchants with trading bases in Dundee and Perth who were able to acquire estates (not always small) from those landowners who chose, or were forced, to dispose of land in order to ease the burden of their debts. Added to these were members of cadet branches of noble families and of the lesser gentry.

While the owners of the great estates with their capital and the rents drawn from their lands were by far the wealthiest sector of society in the Carse of Gowrie, it was the growing number of the middling sort who produced and traded in the large majority of the district's agricultural riches. It was they who furnished the educated professionals who managed the estates, ministered in the parishes, served in and ran the baron courts, taught in the schools and provided the writers and notaries that were to be found in every large settlement. This rising group was at the socio-economic heart of the district. The importance of their roles as merchants, traders

and loaners of money, the scale of their responsibilities within the community and, not least, the commercial drive and energy they brought to the running of their farms and estates, was central to the creation of a new social order. The nature of the relationship between the middling sorts and the higher echelons of society was to a very significant extent economic and the upper hand in dealings was not always that of the great estate owner. This burgeoning class of commerce and business brought fundamental change to the social and economic landscape and contributed mightily to the erosion of the old relationships which, weighted by feudal tradition, stifled commercial freedom and enterprise.

I. D. Whyte found that by the end of the seventeenth century across Lowland Scotland, a majority of tenants were probably in possession of written leases.[5] In the Carse of Gowrie by this same time written leases were the norm and tenants holding land at will, rare. A 'pool of tenants with capital resources and the commercial expertise to respond to the new opportunities', was identified by T.M. Devine as a 'new and dynamic force' that enabled the speed with which rural Scotland was transformed in the last quarter of the eighteenth century.[6] Such tenants were already present in the Carse of Gowrie in the second half of the seventeenth century. Their full potential could not be realised, however, until the sustained expansion of markets and the high prices created by urbanisation and industrialisation became available.

It is evident that the principles behind the rotation of arable crops were well understood. The importation of English seed and livestock was testament to the awareness of the more advanced agriculture practiced in that country and of the desire to emulate it. The dramatic fluctuations and the general level of crop yields recorded on the Mains of Castle Lyon demonstrate, however, the fragile nature of cereal production even in the last quarter of the seventeenth century and the smallness of the margin that existed between a successful crop and serious want. A significant and increasing deterioration in yields has been identified after 1691 culminating in the disastrous harvest of 1695 that marked the onset of famine across much of Scotland. Although Carse of Gowrie parishes had to cope with a great many vagrant poor from other areas, there were neither high levels of

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[5] Whyte, *Agriculture and Society*, 157.
[6] Devine, *Transformation*, 165-6.

mortality nor immediate displacement among the indigenous population, nor any large-scale bankruptcy of tenants. The developed nature and productivity of its agriculture, together with a strong and stable infrastructure were important factors in the extent to which the district was able to withstand that disaster.

At the beginning of the 1690s the Carse of Gowrie supported a high level of population, the vast majority of which was made up of cottars, tenant smallholders and their families. This sector of society, far from lying under 'a spirit of apathy and listlessness', displayed an enormous amount of commercial energy. It has been written that the vast majority of tenants were locked within a broadly subsistence system because they were insulated from the market as a result of traditional tenurial relationships with their landlords.[7] The tenant smallholders of the Carse of Gowrie possessed and worked the most intensively cultivated and productive land in the district, but economies of scale and high levels of rent made it all but impossible for them to earn enough money from their few acres to accumulate capital sufficient to enable their acquisition of larger farms. While they were effectively trapped within the system, they were certainly not insulated from the market place. The need to increase their income beyond the subsistence they were able to derive from their possessions, compelled smallholders to engage in money earning activity in addition to obtaining the maximum return for their produce. The ability and willingness of smallholders, sub-tenants and cottars to embrace commercial opportunity with energy, has been demonstrated in the way in which they utilised their meagre resources to produce linen. The nature of the increase in the amount of this manufacture exported to England from Perth in the 1680s can best be described as an explosion. The production of linen was, in the district, almost entirely in the hands of the lower echelons of society and played an extremely important part in sustaining the high level of population at a time when access to open ground and commonty was being increasingly limited. It also showed what the 'lower orders' could achieve when relatively free of the fetters of landlord control and given a market. Their enterprise and endeavour played a vital part in driving linen goods to the top of Scotland's list of exports and was an important step in the nation's progress from an agrarian to a manufacturing economy.

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[7] *Ibid*, 44.

Wealth and power, however, remained in the hands of the great landlords and their actions had considerable consequences, both social and economic. With the Restoration, the landowning families of the Carse of Gowrie had need to re-establish and demonstrate their power and position both to their neighbours and the populace at large. This was done to a great extent through a manifestation of their wealth. The most visible and chosen means was the improvement and beautifying of their residences and the laying out of the surrounding grounds in gardens and policies. It was conspicuous consumption of the first order and emphasized the extent of the capital at their disposal. It was also a course of action in keeping with the trend that existed among many of Scotland's elite to emulate the fashion in building found in those foreign countries with which they had trading and political associations.

The extremely high levels of debt to which a substantial number of the noble families with estates in the Carse of Gowrie were subject, together with the need to find funding for their improvement projects, required that a more commercial approach be brought to the management of their lands. The grain market was not strong enough to support any heavy capital investment in increased production and the level of the returns earned by tenants was insufficient to meet any substantial increase in rent. Nevertheless, the example of Castle Lyon has demonstrated how, even under considerable financial constraints, major improvements could be executed and real increases in agricultural production achieved.

The principal motivation that drove estate owners to modernise was not in the first instance commercial, but building work on their houses and estate offices together with the beautifying of the surroundings and main approaches, brought far-reaching and fundamental changes that impacted on the economy as well as on local society, the structure of estates and to the landscape. In the short term the local economy was boosted by the extra employment for artisans and labourers. The creation of policies and the enclosing and planting of woods took previously cultivated land away from farms and closed off areas from tenants and their livestock to which they had had traditional access. Farms and holdings had to be re-organised. New boundaries had to be negotiated and ways of working within the changed landscape agreed upon and established. Even though in the second half of the seventeenth century, their investment in improvements rarely extended beyond their principal

residences, a series of radical developments were set in train that over time altered the nature and structure of rural society and transformed the countryside.

In the introduction to *From Chiefs to Landlords*, R. A. Dodgshon comments that 'so long as our studies concentrate so much on the evidence for the eighteenth and nineteenth centuries, it will leave us with an overly static view of traditional Highland society and its economy'.[8] This stands no less true in regard to Lowland Scotland where the abundant records that have survived, particularly from the later eighteenth century, far outweigh those of a hundred years before. The importance of the agricultural improvements of the last quarter of the eighteenth century and the scale on which they were carried out is not in question but, as the research upon which this thesis is based shows, they should not be allowed to cast their shadow over the magnitude of the changes that preceded them and, indeed, made them possible.[9]

The starting points, speed and process of the changes made in the Carse of Gowrie were uneven and varied considerably from estate to estate according to the individual circumstance of each, but there was considerable growth, development and innovation. In 1707 it was a district changed fundamentally, more commercialised and modern, from that which had existed fifty years before. Change and development could, however, be taken only as far as the limitations of Scotland's wider economy, which remained relatively under-developed and critically weak, allowed.[10] The nature of seventeenth century Scottish society also constrained and limited the manner in which the inhabitants of the Carse of Gowrie were able to respond to the many challenges with which they were faced. A wide conceptual gulf had to be negotiated before a society based on traditions born of feudalism and a subsistence economy could be transformed into one that was essentially commercial and founded on capitalist principles. Tenants had to wait for landlords to relinquish the restrictive practices of the past that were geared to a subsistence existence and the maintenance of social control. A long road of economic development and social change had to be travelled before this chasm

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[8] R. A. Dodgshon, *From Chiefs to Landlords: Social and Economic Change in the Western Highland and Islands c.1493-1820* (Edinburgh, 1998), 2.
[9] Whyte, 'Contributions to the Debate', 203-205.
[10] C. A. Whatley, *'Bought and Sold of English Gold'? Explaining the Union of 1707* (Glasgow, 1994), 46.

could be properly bridged. The energy and endeavours of the inhabitants of the Carse of Gowrie saw them travel as far as the strictures of the period allowed.

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